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Elko Field Office

April 1997



ENVIRONMENTAL ASSESSMENT
BLM/EK/PL-97/008

NEWMONT GOLD COMPANY

WOODRUFF CREEK EXPLORATION
PROJECT

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File: 3809, N16-96-002P

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**FINDING OF NO SIGNIFICANT IMPACT
AND
DECISION RECORD
NEWMONT GOLD COMPANY:
WOODRUFF CREEK EXPLORATION PROJECT
BLM/EK/PL-97/008
3809, N16-96-002P**

Finding of No Significant Impact

Based on the analysis of potential environmental impacts contained in the Environmental Assessment BLM/EK/PL-97/008, I have determined that the action will not have a significant effect on the human environment, therefore, an environment impact statement will not be prepared.

Decision

It is my decision to authorize the Newmont Gold Company: Woodruff Creek Exploration Project as described in the proposed action of BLM/EK/PL-97/008.

Mitigation

Prior to initiating the proposed action, Newmont will:

- 1) Stake and/or sign an avoidance area around cultural sites CRNV-11-9093, CRNV-11-9094, CRNV-11-9098, CRNV-11-9099, CRNV-11-9110, and CRNV-11-9111 with steel posts to ensure that a visible barrier is present between the cultural site and the surrounding operations area in order to protect the cultural sites from damage.
- 2) Place avoidance barriers a minimum of 30 meters from the perimeter of the cultural site(s). Where existing roads run through and/or adjacent to the perimeter of the cultural site(s), avoidance barriers will be placed along the roadside.
- 3) Restrict any maintenance to existing roads within an avoidance area to the limits of the existing road berm.
- 4) Direct its personnel and the personnel of its contractors to avoid all staked and/or signed areas under penalty of Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).

In the event an eligible or unevaluated cultural site is subsequently found to have been damaged by activities associated with the proposed action, Newmont will draft a data recovery plan for the affected site(s) within three months. After the data recovery plan has been accepted by the BLM and the State Historic Preservation Office (SHPO), Newmont will implement data recovery at the affected cultural site(s) within one year of the date of acceptance of the data recovery plan by the BLM and the SHPO.

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WORKING OF AN ENVIRONMENTAL IMPACT
AND
DESIGN RECORD
HEAVENLY GOLD COMPANY
WINDMILL CREEK EXPLORATION PROJECT
ELM CREEK 31002
3008 N15-28-032P

Statement of the Environmental Impact

Based on the analysis of technical and scientific data contained in the Environmental
Impact Statement (EIS) and the information that the action will not have a significant
effect on the human environment, therefore, an environmental impact statement will not be
prepared.

Conclusion

It is my belief to authorize the proposed action, Windmill Creek Exploration Project,
as described in the proposed action of EIS 31002-27002.

Recommendation

It is recommended that the proposed action be authorized with

1) The action shall be authorized with the following conditions: EIS 31002-27002
2) The action shall be authorized with the following conditions: EIS 31002-27002
3) The action shall be authorized with the following conditions: EIS 31002-27002
4) The action shall be authorized with the following conditions: EIS 31002-27002

5) The action shall be authorized with the following conditions: EIS 31002-27002
6) The action shall be authorized with the following conditions: EIS 31002-27002
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18) The action shall be authorized with the following conditions: EIS 31002-27002
19) The action shall be authorized with the following conditions: EIS 31002-27002
20) The action shall be authorized with the following conditions: EIS 31002-27002

Monitoring

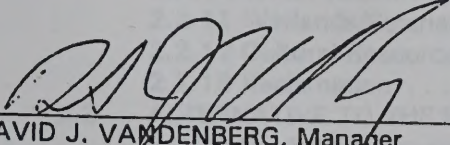
A BLM representative will make regular field inspections of the Woodruff Creek Exploration Project area. These inspections will be performed throughout construction, operation, and reclamation of the proposed action. All field compliance inspections will be documented into the project file at the BLM office in Elko, Nevada.

Rationale

As a result of the analysis in the Newmont Gold Company: Woodruff Creek Exploration Project Environmental Assessment, BLM/EK/PL-97/008, it was determined that the proposed action will not result in unnecessary or undue degradation to the public lands. The proposed action is in conformance with the Elko Resource Management Plan, Issue - Minerals, Management Prescription - 1.

The implementation of the proposed action will allow Newmont Gold Company to conduct exploration and development drilling within the boundary of the Woodruff Creek Exploration Project.

The General Mining Law of 1872 gives a claimant the right to explore, discover, and diligently develop the mineral deposits on a claimant's mining claims. The No Action alternative was not selected because it will not allow Newmont to further define and discover ore deposits on Newmont mining claims within the project area.



DAVID J. VANDENBERG, Manager
Nonrenewable Resources

4/18/97

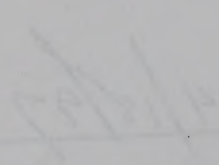
Date

A BLM representative will make regular field inspections of the Woodruff Creek Exploration Project area. These inspections will be performed throughout construction, operation, and reclamation of the proposed action. All field compliance inspections will be documented into the project file in the BLM office in Reno, Nevada.

As a result of the analysis in the Newmont Gold Company's Woodruff Creek Exploration Project Environmental Assessment, BLM/RP-87-002, it was determined that the proposed action will not result in substantial or adverse degradation to the public lands. The proposed action is in conformance with the BLM Resource Management Plan, zone - Mineral Management Prescription - 1.

The implementation of the proposed action will show Newmont Gold Company to conduct exploration and development during within the boundary of the Woodruff Creek Exploration Project.

The General Mining Law of 1872 gives a claimant the right to explore, recover, and diligently develop the mineral deposits on a claimant's mining claim. The 1872 Mining Law was not selected because it will not allow Newmont to further explore and develop the deposits on Newmont mining claims within the project area.



Date



DAVID J. HARRIS, BLM District Manager
Reno, Nevada

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1.0 INTRODUCTION/PURPOSE AND NEED

Newmont Gold Company (Newmont) proposes to conduct mineral exploration activities on public lands administered by the Bureau of Land Management (BLM), Elko Field Office and spilt estate lands (BLM - surface; Newmont-minerals). The proposed action, the Woodruff Creek Exploration Project, is described in the proposed Woodruff Creek Exploration Plan of Operations and Reclamation Permit Application dated May 1996. The proposed exploration activities would occur within a 6,490-acre project area, located approximately 9 miles south of Carlin, Nevada. The majority of the drilling would occur in specific concentrated drilling areas; other areas would undergo occasional drilling activities. The proposed project time frame would occur for approximately three years, 1997 through 1999. The Woodruff Creek Exploration Project is located northwest of the existing Rain Mine, operated by Newmont. Figure 1-1 presents the regional and general project location. Figure 1-2 presents the land status for the entire project area.

1.1 INTRODUCTION

The Woodruff Creek Exploration Project lies within Newmont's administrative area known as the South Operations Area of the Carlin Trend. The Carlin Trend is a 46-mile-long, northwest-trending, mineralized belt in northern Nevada that contains gold, silver, barite, and other minerals. Mining has taken place in the Carlin Trend over the past 100 years, with the majority of activity occurring from 1980 to the present. The Carlin Trend was first explored for mineral potential near Maggie Creek soon after the railroad was completed through the town of Carlin, Nevada in 1896. The first significant production of gold was from placer deposits near Lynn Creek in 1907. Gold production occurred sporadically from placer and quartz lode deposits at various locations in the Carlin Trend from 1920's through the present (BLM, 1993).

In the late 1950's, Carlin Gold Mining Company became interested in exploring the Carlin Trend for gold. Exploration efforts revealed that significant amounts of gold were located in the area as deposits of sub-microscopic, disseminated gold, discernible by assay methods, but not otherwise visible. Exploration has been on-going since 1959.

1.0 INTRODUCTION/PURPOSE AND NEED

Hemlock Gold Company (HGC) is proposing to conduct mineral exploration activities on public lands administered by the Bureau of Land Management (BLM), Elko Field Office and the Elko District Office, in the Elko District, Nevada. The proposed action, the Woodruff Creek Reclamation Project, is described in the proposed Woodruff Creek Reclamation Plan of Operations (P.O.P.) submitted to the BLM on May 1987. The proposed exploration activities would occur on a 6,400-acre project area, located approximately 8 miles south of Elko, Nevada. The majority of the drilling would occur in specific concentrated drilling areas; other areas would be used for ancillary activities. The proposed project time frame would occur for approximately seven years, 1987 through 1993. The Woodruff Creek Reclamation Project is located northeast of the existing Elko Mine, operated by Hemlock, Figure 1-1. Figure 1-2 presents the regional and general project location. Figure 1-3 presents the land status for the active project area.

1.1 INTRODUCTION

The Woodruff Creek Reclamation Project lies within Hemlock's administrative area known as the Elko District. The Elko District is a 45-mile-long, north-south oriented area, extending east to the Elko District boundary and west to the Nevada/Idaho border. Mining has been done in the Elko District over the past 100 years, with the majority of activity occurring from 1900 to the present. The Elko District was first explored for mineral resources in 1860. The Elko District was explored through the town of Elko, Nevada in 1860. The first significant production of gold was from placer deposits near Elko in 1860. Gold production occurred sporadically from 1860 to 1900, with the majority of activity occurring in the Elko District from 1860 through the present (BLM, 1987). In the late 1860's, Elko Mining Company became interested in exploring the Elko District for gold. Exploration efforts revealed that significant amounts of gold were located in the area in deposits of sedimentary, disseminated gold, discernible by assay methods, but not otherwise visible. Exploration has been ongoing since 1923.

The Rain Mine is located approximately 10 miles southeast of Carlin, Nevada and approximately 2 miles southeast of the Woodruff Creek Exploration Project. Newmont developed the Rain Mine in 1987. The facilities within the Rain Mine include: two open pits, waste rock disposal facilities, heap leach pad and associated facilities, a mill process facility with an associated tailings impoundment, and an underground mine and associated facilities.

The proposed Woodruff Creek Project boundary is shown on Figure 2-1. The area within the project boundary includes approximately 6,490 acres, of which approximately 59 acres would be disturbed.

Disturbance from existing exploration activities, involves 6.07 acres conducted under Tess Notice (N16-92-044N), Tess NW Notice (N16-96-002N), and North Piñon-Petan Project, and associated amendments, all of which has been incorporated into this plan. (The North Piñon-Petan Project is on fee ground). These Notices and amendments were submitted between 1992 and 1996.

1.2 PURPOSE AND NEED

The purpose for the proposed Woodruff Creek Exploration Project is to define the nature and extent, shape, and economic value of precious metal-bearing deposits within the proposed project area. Proposed drilling operations are needed for the preparation of future mine development. The need for the proposed project arises from the international, national, and regional demands for gold.

1.3 ISSUES

An initial coordination meeting was held on September 4, 1996, between the Elko Field BLM and Newmont to determine the scope of the Woodruff Creek Exploration Project. On September 10, 1996, scoping letters were sent to the U.S. Fish and Wildlife Service, Nevada Division of Wildlife, and the Nevada Natural Heritage Program. On October 11, 1996, scoping letters were delivered to the Western Shoshone Historic Preservation Society and Felix Ike, Chairman of Te-Moak Tribal Council. A notice regarding the proposed Woodruff Creek Exploration Project requesting written comments was also published in the *Elko Daily Free Press* and several other newspapers, September 28, 1996. The project was included in the Elko Environmental Calendar in the December 1996 issue. Elko County, George Boucher, Elko County Manager, was notified by the BLM on March 24, 1997. The USFWS, NDOW, and the

NNHP are the only agencies to respond to the scoping letters. No additional public comments have been received to date.

The following issues and concerns were raised by agencies during the scoping process:

- Wildlife - impacts to mule deer migration, various raptors may occur throughout the proposed project area, and golden eagles are known to nest near or adjacent to the project area;
- Species of Concern - special status species may occur in the project area;
- Wetlands - potential impacts to wetlands; and,
- Vegetation - removal of vegetation during avian breeding season may result in destruction of bird nests and/or their contents.

1.4 LAND USE PLAN CONFORMANCE STATEMENT

The proposed action and alternative described below are in conformance with the Elko Resource Management Plan, Issue: Minerals, Management Prescription 1, and are consistent with Federal, State, and local laws, regulations, and plans to the maximum extent possible.

TABLE 2-1
PROPOSED ACTION DISTURBANCE AREAS

	Fee Lands (acres)	Public Lands (acres)	Total (acres)
Drill pads (50 feet by 50 feet clear area)	0.0	11.5	11.5
Supply (20 feet by 70 feet clear area)	0.0	4.0	4.0
Road (25 feet wide disturbance width)	0.0	35.0	35.0
Total = 50 feet total clear area width	0.0	50.5	50.5
TOTAL	0.0	50.5	50.5

The drill pads would typically be constructed to approximately 50 feet by 50 feet. Access to the pads would typically be 20 feet by 70 feet.

The project area is within a designated wildlife management area and is subject to the BLM's annual report for wildlife management.

With the help of the project to be carried out in the following manner: the additional public comments have been received to date.

The following issues and concerns were raised by agencies during the scoping process:

- Wildlife - impacts to nests and egg-laying, various factors may occur throughout the proposed project area, and golden eagles are known to nest near or adjacent to the project area.
- Sources of Concern - special status species may occur in the project area.
- Wetlands - potential impacts to wetlands; and.
- Vegetation - removal of vegetation during clearing and grading activities may result in loss of habitat and other resources.

1.4 LAND USE PLAN COMPLIANCE STATEMENT

The project area and activities described above are in conformance with the BLM Resource Management Plan, local, state, federal, and tribal laws, regulations, and plans to the maximum extent possible.

2.0 PROPOSED ACTION AND ALTERNATIVE

2.1 INTRODUCTION

Newmont submitted the Woodruff Creek Exploration Project Plan of Operation and Reclamation Plan and Permit Application (N16-96-002P) to the BLM Elko Field Office in May 1996. This Plan of Operations proposed exploration activities within the Woodruff Creek Exploration Project area, encompassing 59 acres of disturbance from 1997 through 1999. The proposed exploration project would occur on public lands administered by the BLM and split estate lands (BLM, surface; Newmont, minerals). The applicant address is:

Newmont Gold Company
P.O. Box 669
Carlin, NV 89822-0669

2.2 PROPOSED ACTION

Newmont proposes to conduct exploration activities that include the construction of 120 drill holes. The following table describes the disturbance acres associated with the proposed project.

TABLE 2.1
PROPOSED ACTION DISTURBANCE ACRES

	Fee Lands (acres)	Public Lands (acres)	Total (acres)
Drill pads (50 feet by 85 feet disturbance)	0.0	11.5	11.5
Sumps (20 feet by 70 feet disturbance)	0.0	4.0	4.0
Road (25 feet total disturbance width)	0.0	26.0	26.0
Trenches (20 feet total disturbance width)	0.0	17.5	17.5
TOTAL	0.0	59.0	59.0

The drill pads would typically be constructed in dimensions of 50 feet by 85 feet. Sumps to contain drilling fluids would typically be 20 feet by 70 feet.

The project area in which activities would occur encompasses a total of 6,490 acres of public land. Newmont will submit to the BLM an annual report for previous years activities.

2.0 PROPOSED ACTION AND ALTERNATIVE

2.1 INTRODUCTION

Newmont submitted the Western Creek Exploration Project Plan of Operation and Reclamation Plan and Permit Application (W-10-0007) to the BLM ERO Field Office in May 1998. The Plan of Operations proposed exploration activities within the Western Creek Exploration Project area, encompassing 88 acres of disturbance from 1997 through 1999. The proposed exploration project would occur on public lands administered by the BLM and state lands (BLM, various; Newmont Company, 1998). The document contains:

Newmont Gold Company
P.O. Box 680
Canon, WY 82422-0680

2.2 PROPOSED ACTION

Newmont proposes to conduct exploration activities that include the construction of 120 drill holes. The following table describes the disturbance areas associated with the proposed project.

TABLE 2.1
PROPOSED ACTION DISTURBANCE AREAS

Task	Drill Hole	Per Footage	
Drill hole (50 feet by 50 feet disturbance)	11.5	0.0	
Surface (50 feet by 50 feet disturbance)	4.0	0.0	
Road (50 feet total disturbance width)	20.0	0.0	
Trailhead (50 feet total disturbance width)	17.5	0.0	
TOTAL	53.0	0.0	

The drill holes would typically be constructed in dimensions of 50 feet by 50 feet. Disturbance to surface in drill holes would typically be 50 feet by 50 feet.

The proposed action is a pilot project. Newmont would conduct exploration activities on a total of 88 acres of public land. Newmont will submit to the BLM an annual report of the exploration activities.

2.2.1 Drilling Methods

Newmont proposes to use reverse-circulation (RC) air rotary drilling rigs, mud conventional-circulation drill rigs, and core drill rigs. Each type of drill has its advantages and disadvantages, depending upon the nature of the material being drilled, the depth of the target, and the information sought. For any one drill hole, typically more than one type of drill rig would be used. For some deep holes, all three methods may be used sequentially to complete the hole.

Reverse Circulation

Reverse circulation drilling depths range from 100 to 2,000 feet; however, typically drilling occurs to depths of 900 feet. At shallow depths, dry air would be the working fluid and water would be injected only to suppress dust. Reverse circulation units usually consist of three large tandem axle carriers (rig, water truck, pipe truck) and a pickup truck to transport crews and supplies. Some drilling units provide a combination water truck/pipe truck so that only two large trucks are on site. All reverse circulation units would be truck-mounted.

Mud Rotary

Mud rotary drilling would be used primarily in deep alluvial-covered basins where the groundwater and/or unconsolidated formation makes drilling with air difficult. Mud rotary holes would not exceed 1,000 feet in depth. This type of drilling would utilize either water, bentonite, or polymers as drilling fluids. The quality of sample recovered would be less reliable than with reverse circulation drilling; however, the use of mud as a working fluid maintains better hole conditions, which would be of particular importance in drilling through thick alluvium or highly altered rock. Mud rotary units typically consist of three large tandem axle carriers (rig, water truck, pipe truck) and a pickup truck to transport crews and supplies.

Core Drilling

Core drilling would be typically used where conditions prevent the use of other types of drill rigs and where solid samples of rock are needed for geological, geotechnical, or metallurgical studies. Core holes would be approximately 500 feet to 1,500 feet. Lubrication for core drilling would be provided by a thin slurry of bentonite, water and various viscosity modifiers and dispersants. In general, less fluid would be discharged from core drills than from the other two types of drilling methods. Core drilling units normally consist of two or three single-axle trucks (rig, water truck, pipe truck/service truck) and a pickup truck to transport crews and supplies. Core rigs may be truck- or skid-mounted.

2.2.2 Trenches

In addition to exploration drilling activities, Newmont also proposes to construct exploration trenches. A maximum of 38,000 lineal feet of trenches, with an average disturbance width of 20 feet, are proposed to be constructed, which would result in 17.5 acres of disturbance.

2.2.3 Exploration Drill Roads

When drill sites can not be accessed via overland travel, exploration drill roads would be constructed. Approximately 45,000 linear feet of exploration drill roads are proposed to be constructed for 26 acres of disturbance.

Most new exploration roads would be constructed with a bulldozer using "cut only" methods. "Cut only" would be necessary for most roads as compacted level surfaces are essential for movement for the relatively top-heavy, truck-mounted drilling equipment.

Whenever possible, and primarily on reasonably level terrain, topsoil would be salvaged and stockpiled to the uphill margin of the road cut. On steeper slopes, topsoil would be stored as side cast along the periphery of the roads, pads, and sumps. Although this method would mix the limited existing thickness of topsoil with the subsoils, experience has shown that the resulting replaced soils can support vegetation. Newmont may elect to push topsoil uphill prior to cutting roads on steep slopes; however, this would result in increased surface disturbance due to bulldozers working "back-and-forth" below the proposed road.

Roads would be built to an average travel width of 10 to 12 feet (depending upon the terrain) for an average disturbance width of 25 feet. Roads cut on a side slope would typically be sloped in at a grade of one to two percent to promote proper drainage. Roads would be constructed at a grade of eight percent or less. Road maintenance and upgrading would be done to increase production and minimize adverse effects of erosion from heavy traffic and water runoff.

To facilitate exploration, the allotment fence may be crossed (see Figure 2-1). For temporary crossing of the fence, Newmont would cut the fence for access and then immediately restore the fence to its previous condition. For seasonal use access across the allotment fence, Newmont would install long-term heavy range cattle guard(s).

2.2.2. Proposed

In addition to expansion during activities, expansion and growth to current expansion
distance. A distance of 35 000 linear feet of expansion, with an average distance width of
30 feet, was proposed to be constructed, which would result in 17.5 acres of disturbance.

2.2.3. Expansion Drill Holes

When this site can not be accessed via road, expansion drill holes would be
constructed. Approximately 45 000 linear feet of expansion drill holes was proposed to be
constructed for 25 acres of disturbance.

Most new expansion holes would be constructed with a diameter using "one only" drill bit
"one only" would be necessary for most holes as completed with drilling and installed for
movement for the relatively temporary, track-mounted drilling equipment.

Wherever possible, first priority is an accessible level terrain, which would be salvaged and
re-planted to the width margin of the road cut. On steeper slopes, holes would be placed as
close as possible to the edge of the road, with a buffer. At least one hole would be placed
the limited existing thickness of topsoil with the minimum, exposure has shown that the
resulting exposed area can support vegetation. The second priority is to place holes along the
existing road on steep slopes; however, this would result in erosion, which disturbance
into an otherwise working "back-and-forth" along the proposed road.

Holes would be built to an average level width of 10 to 12 feet depending upon the terrain
for an average disturbance width of 15 feet. Holes are on a side slope would typically be
placed to a grade of one to two percent to prevent proper drainage. Holes would be
constructed to a grade of eight percent or more. Road widening and repaving would be
done to improve production and maintain vehicle safety of trucks from heavy water and
when needed.

To facilitate expansion, the alignment factor may be shown in Figure 2.1. For expansion
drilling to the level, it would result in the same as shown with their immediate location
the holes to the expansion condition. For additional new holes within the alignment factor,
alignment would result in a new hole being drilled.

Exploration road upgrading and maintenance procedures would include:

- periodic dressing or blading of frequently used road surfaces with a motor patrol;
- installation of drainage controls such as water bars, ditches, and, if necessary, culverts, to control road damage, soil loss, and sedimentation impacts from erosion;
- road maintenance, such as snow removal and drainage of mudholes, to provide access during wet seasons;
- surfacing some road segments with gravel to control muddy conditions so that continued access along the defined route of travel can be assured; and,
- installation of weed-free straw bales for sediment control.

2.2.4 Ancillary Facilities

Existing buildings and facilities at the Rain Mine site would be used by Newmont to store exploration samples and equipment as necessary. No construction of new buildings is proposed.

2.2.5 Equipment

Equipment needed for construction and drilling activities would be used strictly on an as-needed basis. A bulldozer would be used for road and site construction. Drill rigs would be supported by water trucks, pipe trucks, and light vehicles as needed. Newmont could have a maximum of up to 10 drill rigs working in the project area. Newmont anticipates that the average number of drill rigs could range between three and six, depending on drill rig availability and need.

2.2.6 Operating Schedule

Exploration drilling activities would operate 24 hours per day, 365 days per year, depending on availability, need, and weather conditions.

2.2.7 Work Force

Newmont proposes to utilize a maximum of up to 10 drill rigs, with two contract employees per rig for a maximum work force of 25 contract employees. A maximum of 4 geologists and 8 support personnel, all currently employed by Newmont, would also be associated with this exploration project.

- Expansion test equipment and maintenance procedures would include:
- periodic checking of loading of equipment and test surfaces with a strain gage
- installation of strain gages on test surfaces such as water level, diaphragm, and if necessary, to monitor road damage and test and sedimentation process from
- test equipment, such as snow removal and storage of materials, to provide
- sufficient test equipment with gages to control model conditions in that
- continuous access with the defined limits of travel over the network area.
- installation of road test data for sediment control.

2.2.4. Analysis/Results

Existing highway and facilities in the field area would be used by the network to provide a continuous access and equipment at necessary. The construction of new buildings is required.

2.2.5. Equipment

Equipment needed for construction and testing with the road test units on an as needed basis. A building would be used for test and test construction. Oil rigs would be required for water trucks, pump trucks, and light vehicles as needed. Network would have a maximum of up to 10 test rigs working in the project area. Network would also have the same number of the rig units as the network area and six, depending on the rig availability and test.

2.2.6. Operating Schedule

Expansion test equipment would operate 24 hours per day. 24 hours per day, depending on availability, road and weather conditions.

2.2.7. Staffing

Network personnel to utilize a network of up to 10 test rigs with two trained employees to up to a maximum of 24 test rigs. A maximum of 4 personnel and a support personnel as required equipment for network would also be included with the expansion project.

2.2.8 Air Quality

An *Air Quality Permit to Construct for Surface Disturbance* would be acquired from the Nevada Division of Environmental Protection (NDEP), Bureau of Air Quality. Newmont proposes to water constructed access and exploration roads, as necessary, to control dust.

2.2.9 Solid and Hazardous Materials

Solid Wastes

All project-related refuse would be disposed at an approved landfill. No refuse would be disposed on site.

Hazardous Materials

Newmont would comply with applicable Federal and State laws dealing with the use, storage, and disposal of chemicals, petroleum, and petroleum products. Hazardous wastes would not be generated in the project area. In the event regulated material such as diesel fuel are released, measures would be taken to control the extent of the release, and the appropriate agency, including the BLM, would be notified in accordance with the applicable Federal and State regulations.

2.2.10 Water Resources

All drill holes would be plugged according to Nevada Division of Water Resources and Nevada Administrative Code (NAC) 534.425 through 534.428. All drilling activities would avoid any springs and surface waters present within the project area. Sediment control structures would be constructed when necessary to control sediment run off, but would not be limited to, silt traps and fences, sediment ponds, and/or settling basins. Straw, hay bales, or synthetic geotextile fabrics would be used to construct silt traps and fences. Newmont would maintain these structures during exploration activities. Upon completion of exploration activities and successful reclamation, sediment control structures would be removed or reclaimed.

2.2.11 Wetlands/Riparian Zones

There are some riparian and wetland areas located near the springs. The springs are located on Figure 2-1. All exploration activities would avoid wetlands and riparian zones.

2.2.12 Cultural Resources

All exploration activities would avoid known eligible or potentially eligible cultural resource sites. Should cultural resources be uncovered during exploration activities, all operations in the

immediate vicinity would stop and the BLM Elko Field Office would be contacted for further direction.

2.2.13 Reclamation

The Woodruff Creek Exploration Plan of Operations (Newmont, 1996) describe the detailed reclamation plan for this project. Reclamation for public lands would be consistent with the requirements of Nevada Revised Statute (NRS) and NAC 519A, 43 CFR 3809, and in accordance with the "Nevada Interim Standards for Successful Revegetation," (BLM Instruction Memorandum NV-94-026, 1994). Reasonable measures would be taken during operations to prevent unnecessary or undue degradation to the federal lands involved.

Newmont's long-term reclamation goal for the Woodruff Creek Exploration Project would be to create a safe, stable, and productive post-exploration land use of livestock grazing and wildlife habitat. This goal would be accomplished by utilizing the guidelines outlined in the Reclamation Plan, as submitted to the BLM in May 1996. Newmont assumes responsibility for reclaiming all existing disturbance in the Woodruff Creek Exploration Project area.

Proposed reclamation associated with the Woodruff Creek Exploration Project would consist of hole plugging, in accordance with State of Nevada regulations, (as discussed in previous sections), recontouring, selective replacement of topsoil, and seeding.

All access roads, drill pads, sumps, and trenches constructed by a dozer typically result in deposition of side cast material. The volume of side cast material can vary significantly, depending primarily upon topography. Roads which generate side cast material would be recontoured to an approximate pre-disturbance slope by pulling berms and side cast material back onto the road. Materials would be replaced with either backhoes or dozers, dependent upon site-specific consideration of slope, proximity of heavy equipment, and potential of creating unnecessary additional disturbances while recontouring. Recontoured surfaces would be re-established as near as possible to the surrounding, natural topography.

Roads, pads, and sumps which do not require replacement of side cast material would be scarified or ripped to a depth of approximately eight inches prior to revegetation efforts. Efforts would be taken to scarify only those portions of road which require seeding (e.g., tire tracks) while minimizing disturbance to established vegetation.

Recontouring and scarifying access roads, drill pads, sumps, and trenches would be the primary means by which seedbeds would be prepared. Leaving a roughened surface would provide opportunities for seed and moisture to be trapped and held. Additional benefits of a roughened surface include slower runoff, increased infiltration, and in general, more favorable microenvironments for seed germination.

The proposed reclamation plant list is presented in Table 2.2. Modification to the plant list and application rates would be developed through consultation with and approval by the BLM.

TABLE 2.2
RECLAMATION PLANT LIST

COMMON NAME	SCIENTIFIC NAME
Thickspike wheatgrass	<i>Agropyron dasystachyum</i>
Pubescent wheatgrass	<i>Agropyron trichophorum</i>
Streambank wheatgrass	<i>Agropyron riparium</i>
Bluebunch wheatgrass	<i>Agropyron spicatum</i>
Sandberg bluegrass	<i>Poa secunda</i>
Indian ricegrass	<i>Oryzopsis hymenoides</i>
Webber ricegrass	<i>Oryzopsis webberi</i>
Idaho fescue	<i>Festuca idahoensis</i>
Green needlegrass	<i>Stipa viridula</i>
Bottlebrush squirreltail	<i>Sitanion hystrix</i>
Great Basin wildrye	<i>Elymus cinereus</i>
Crested wheatgrass	<i>Agropyron cristatum</i>
Sheep fescue	<i>Festuca ovina</i>
Western wheatgrass	<i>Agropyron smithii</i>
Slender wheatgrass	<i>Agropyron trachycaulum</i>
Canby bluegrass	<i>Poa canbyi</i>
Sand dropseed	<i>Sporobolus cryptandrus</i>
Alkali sacaton	<i>Sporobolus albidus</i>
Northern sweetvetch	<i>Hedysarum boreale</i>
Buckwheat	<i>Eriogonum spp.</i>
Annual ryegrass	<i>Lolium perenne multiflorum</i>
Western yarrow	<i>Achillea millefolium lanulosa</i>
Small burnet	<i>Sanguisorba minor</i>

TABLE 2.2 (continued)
RECLAMATION PLANT LIST

COMMON NAME	SCIENTIFIC NAME
Lewis flax	<i>Linum lewisii</i>
Gooseberryleaf (scarlet) globemallow	<i>Sphaeralcea grossulariifolia</i>
Scarlet globemallow	<i>Sphaeralcea coccinea</i>
Desert globemallow	<i>Sphaeralcea ambigua</i>
Arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
Palmer penstemon	<i>Penstemon palmeri</i>
Wyoming big sagebrush	<i>Artemisia tridentata wyomingensis</i>
Chokecherry ¹	<i>Prunus virginiana</i>
Black sagebrush	<i>Artemisia nova</i>
Shadscale	<i>Atriplex confertifolia</i>
Fourwing saltbush	<i>Atriplex canescens</i>
Prostrate kochia	<i>Kochia prostrata</i>
Serviceberry ¹	<i>Amelanchier spp.</i>
Winterfat	<i>Ceratoides lanata</i>
Rubber rabbitbrush	<i>Chrysothamnus nauseosus</i>
Green Mormon tea	<i>Ephedra viridis</i>
Silver buffaloberry ¹	<i>Shepherdia argentea</i>
Mountain brome	<i>Bromus marginatus</i>
Nuttall saltbrush	<i>Atriplex nuttallii</i>
Western virginsbower	<i>Clematis ligusticifolia</i>
Spiny hopsage	<i>Grayia spinosa</i>
Antelope bitterbrush ¹	<i>Purshia tridentata</i>
Snowbrush ¹	<i>Ceanothus spp.</i>
Currant ¹	<i>Ribes spp.</i>
Woods rose ¹	<i>Rosa woodsii</i>

¹ Shrubs may be planted from either seeds or seedlings
Source: BLM, 1996.

Application rates for the mixture would range between 10 to 15 pounds per acre. Plant species would be selected from the reclamation plant list based upon their price and availability. Seeding procedures would be dependent upon specific site characteristics. Recontoured roads, pads, sumps, and trenches with severe slopes would be seeded with hand-held broadcast seeders. An electric broadcast seeder mounted on an All-Terrain Vehicle (ATV)

would be used on roads with gentle slopes. A chain-drag mounted behind the ATV may be used to cover the seed.

In the event it becomes necessary to install drainage structures, Newmont would remove and reshape any fill material in drainages to reestablish preexisting seasonal water paths. Suitable material would be used to armor reshaped drainages, if necessary, to minimize erosion.

Following the completion of a specific exploration, each area would be reclaimed during the next available construction season, or as soon as practical. Reclamation of certain long-term access roads may be deferred until project completion. Access roads needed for future year's exploration would be left open on a year-to-year basis.

2.3 ALTERNATIVE TO THE PROPOSED ACTION

2.3.1 No Action Alternative

Under the No Action Alternative, Newmont's proposed Woodruff Creek Exploration Project would not be conducted. Newmont would not be able to further define and discover ore deposits on public lands. The Mining Law of 1872 grants the claim holder access and the right to explore their claims in a prudent and diligent manner.

would be used on areas with gentle slopes. A clear-cutting method would be used to clear the area.

In the event a decision is made to build a dam, the following would be used to clear the area. The area would be cleared by using a clear-cutting method. The area would be cleared by using a clear-cutting method. The area would be cleared by using a clear-cutting method.

Following the completion of a specific project, the area would be cleared by using a clear-cutting method. The area would be cleared by using a clear-cutting method. The area would be cleared by using a clear-cutting method.

2.3 ALTERNATIVE TO THE PROPOSED ACTION

2.3.1 The Action Alternative

Under the Action Alternative, the proposed project would be cleared by using a clear-cutting method. The area would be cleared by using a clear-cutting method. The area would be cleared by using a clear-cutting method.

3.0 AFFECTED ENVIRONMENT

The Woodruff Creek Exploration Project area is characterized by hills and small mountain ranges. The proposed project site is within the Piñon Range; elevations in the immediate area range from 5,800 to 7,420 feet above mean sea level (AMSL).

3.1 PROPOSED ACTION

The following critical elements of the human environment are not present or are not affected by the proposed action or alternative in this Environmental Assessment:

- Air Quality
- Areas of Critical Environmental Concern
- Environmental Justice
- Farmlands (Prime or Unique)
- Floodplains
- Paleontology: A Class III (30 meter transect interval) survey has been completed over the project area. This survey was completed to document any archaeological or paleontological resources within the project area, and then to assess the significance of these resources. No paleontological resources were discovered during the inventory. Should paleontological resources be uncovered during exploration activities, however, all operations in the immediate vicinity would stop and the Elko Field Office would be contacted for further direction.
- Wastes (Solid or Hazardous)
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wilderness
- Native American Religious Concerns: Consultation with the Te-Moak Tribal Council, the Elko, Wells, Battle Mountain, and South Fork Band Councils, and the Western Shoshone Historic Preservation Society was initiated between January 16-24, 1997. The consultation requested comments as to the effect the project might have on religious, traditional, or cultural areas important to the Western Shoshone people. To date, one letter has been sent and one phone call has been made to each of the above-mentioned Western Shoshone groups requesting comment. Only one response has been received thus far; the South Fork Band Council indicated that they have no concerns or comments on the proposed project.

Bureau specialists have further determined that the following resources, although present in the project area, are not affected by the proposed action:

- Recreation
- Socioeconomics

- **Geology:** The project area lies along the southern margins of the Carlin Trend. Silica-rich sedimentary rocks located within the upper plate of the Roberts Mountain thrust have been moved into the area by tectonic processes. Lower plate rocks, consisting of clastic sediments, were deposited at or near their present location and have been exposed by erosion of the upper plate.

Rocks hosting the gold mineralization are not exposed at the surface and the depths of the mineralization require the use of underground mining methods. The mineralized zones are closely associated with major high angle structures within the host rocks.

- **Lands:** Access to the project area can be achieved by traveling west on Interstate Highway 80 from Elko to the Carlin Interchange, south on State Route 278 to Rain Mine Access Road, then east on the Rain Mine Access Road to the Woodruff Creek Exploration Project Area.

Figure 2-1 depicts the proposed Woodruff Creek Exploration Project which would occur within portions of:

- Sections 24, 25, and 26, Township 32 North, Range 52 East
- Sections 19, 28, 29, 30, 31, and 32, Township 32 North, Range 53 East
- Section 6, Township 31 North, Range 53 East

Newmont controls the mining claims and split estate minerals within the project area which are staked for locatable minerals. The rights-of-way (ROW) in the project area are listed in Table 3.1.

**TABLE 3.1
RIGHTS-OF-WAY IN THE VICINITY OF THE
WOODRUFF CREEK EXPLORATION PROJECT AREA**

Serial No.	Type of ROW	Grantee
N-53340	Access Road and Drill Pad	Mobil Oil
N-47510	Powerline	Sierra Pacific Power Company
N-35312	Access Road	Newmont Gold Company

- **Livestock Grazing:** The Woodruff Creek Exploration Project area is located within the Pine Mountain and Emigrant Springs Allotments. Tomera Ranches Inc., Stonehouse Division c/o Tom and Patsy Tomera are the permittees. There is an average of approximately 6.5 acres per animal unit month (AUMs) based on the adjudication map for the area (Warren, 1996). Approximately 500 AUMs are permitted on the Pine Mountain Allotment and 477 AUMs are permitted on the Emigrant Springs Allotment within the project boundary. The period of use by the permittee is April 16 through November 30. The proposed project would not result in the loss of any grazing privileges to the permittees.

Geology: The project area lies along the southern margin of the Lake Tahoe basin. The project area is located within the upper plate of the Roberts Lake thrust fault. The project area is located within the upper plate of the Roberts Lake thrust fault. The project area is located within the upper plate of the Roberts Lake thrust fault.

Hydrology: The project area is located within the upper plate of the Roberts Lake thrust fault. The project area is located within the upper plate of the Roberts Lake thrust fault. The project area is located within the upper plate of the Roberts Lake thrust fault.

Access: Access to the project area can be achieved by traveling west on Interstate Highway 50 north 500 ft to the Cache National Forest, then east on State Route 218 to Rain Lake Access Road, then east on the Rain Lake Access Road to the project area.

Figure 2-1 depicts the proposed project area. The project area is located within the upper plate of the Roberts Lake thrust fault.

Section 24, 25, and 26, Township 32 North, Range 22 East
 Section 18, 19, 20, 21, and 22, Township 32 North, Range 22 East
 Section 8, Township 32 North, Range 22 East

Section 24, 25, and 26, Township 32 North, Range 22 East
 Section 18, 19, 20, 21, and 22, Township 32 North, Range 22 East
 Section 8, Township 32 North, Range 22 East

TABLE 2.1
 RIGHTS-OF-WAY IN THE VICINITY OF THE
 WOODRUFF CREEK EXTENSION PROJECT AREA

Section	Type of ROW	Owner
W-2420	Access Road and Oil Pad	State of California
W-2420	Powerline	California Pacific Power Company
W-2420	Access Road	Woodruff Creek Extension Project Area

Woodruff Creek: The Woodruff Creek Extension Project Area is located within the project area. The project area is located within the project area. The project area is located within the project area.

3.1.1 Water Resources

Surface Water

The Woodruff Creek Exploration Project area includes several ephemeral and one seasonal intermittent drainages that flow only during seasonal storm events. These drainages are tributaries to Woodruff Creek. Woodruff Creek is perennial in portions of Section 24 and 25, Township 32 North, Range 52 East. The project area also contains Stump Spring and 19 unnamed spring located throughout the project area. The location of Woodruff Creek and the springs are shown on Figure 2-1. There is limited data on the water quality within the project area. The available data indicates the proposed project would not effect the surface water. Section 28, Township 32 North, Range 53 East is within the Dixie Creek Watershed. Dixie Creek has a watershed management plan because of sediment problems and fisheries issues (Marchio, 1997). Dixie Creek lies outside of the project area.

Groundwater

Groundwater hydrology in the vicinity of the proposed Woodruff Creek Exploration Project area is not well documented. Data from drilling activities are limited and no piezometers have been installed to monitor water levels. Most of the water encountered during drilling activities appears to originate from the Mississippian Chainman Formation, at a depth of approximately 300-350 feet.

3.1.2 Soils

Soils within the project area were mapped at the Order III level by the U.S. Soil Conservation Service (now the Natural Resource Conservation Service) and are described in the *Soil Survey of Tuscarora Mountain Area, Parts of Elko, Eureka, and Lander Counties, Nevada* (USDA-SCS, 1980) and *Elko Central Soil Survey - Draft*. (USDA-SCS, 1985). Nine distinct soil associations, and one consociation have been determined to occur within the Woodruff Creek Exploration Project area boundary (Figure 3-1). These soil units are summarized on Table 3.2.

Each soil association consists of two or more individual soils which have specific characteristics that allow them to be distinguished from other association soils. The consociation consists of one individual soil which has specific characteristics that allow it to be distinguished from other associations. Detailed information of the USDA-SCS Order III data, including the soil series, surface texture, taxonomic classification, landscape position, elevation of the individual soils that occur in each association, permeability, available water capacity,

wind and water erosion hazard, percent slope, and approximate solum range are presented in Appendix A (USDA-SCS, 1980 and USDA-SCS, 1985).

The majority of the map units within the project area have a moderate to high water erosion hazard when disturbed and are also rated poor to very poor to establish seedlings (USDA-SCS, 1980 and 1985).

TABLE 3.2
SOIL MAP UNITS

CAD	-	Carstump very gravelly loam, 4 to 30 percent slopes
CC	-	Chen - Pie Creek - Ramires Association
ME	-	Mascamp - Carstump Association
261	-	Linkup - Roca - Vanwyper Association
413	-	Vanwyper - Bilbo - Soughe Association
574	-	Sumine - Cleavage - Cleavage, very cobbly Association
992	-	Eboda - Loncan - Leevan Association
993	-	Eboda - Quartz - Loncan Association
1725	-	Quartz - Cleavage - Loncan Association
1880	-	Chen - Arcia - Cleavage Association

Source: USDA-SCS, 1980 and USDA-SCS, 1985 (Draft).

3.1.3 Vegetation

Vegetation within the project area consists of a sagebrush - upland vegetation. Species present are mountain big sagebrush, antelope bitterbrush, low sagebrush, black sagebrush, Douglas rabbitbrush, serviceberry, snowberry, bluebunch wheatgrass, Thurber needlegrass, Sandberg bluegrass, bottlebrush squirreltail, Idaho fescue, basin wildrye, and cheatgrass (Appendix A).

3.1.4 Wildlife

Mammals likely to occur in the vicinity of the Woodruff Creek Exploration Project area include mule deer, mountain lion, mountain cottontail rabbits, and ground squirrels. Reptiles likely to occur within the area include the short-horned lizard, sagebrush lizard, Western rattlesnake, and garter snake. The golden eagle, sage grouse, chukar, turkey vulture, morning dove, common nighthawk, and flycatcher are bird species likely to frequent the project area. There are no known raptor nests located within the Woodruff Creek Exploration Project area. However, the Nevada Division of Wildlife (NDOW) has identified two golden eagle nests located two miles from the Woodruff Creek Exploration Project area.

1580 and 1585.

The majority of the map units within the project area have a thickness to high water station of 1580-1585 and are also noted as being in the 1580-1585 range.

Appendix A USGS 1:50,000 and USGS 1:25,000 maps of the project area are presented in

TABLE 2.1
SOL MAP UNIT

1580	1580 - 1585
1585	1585 - 1590
1590	1590 - 1595
1595	1595 - 1600
1600	1600 - 1605
1605	1605 - 1610
1610	1610 - 1615
1615	1615 - 1620
1620	1620 - 1625
1625	1625 - 1630
1630	1630 - 1635
1635	1635 - 1640
1640	1640 - 1645
1645	1645 - 1650
1650	1650 - 1655
1655	1655 - 1660
1660	1660 - 1665
1665	1665 - 1670
1670	1670 - 1675
1675	1675 - 1680
1680	1680 - 1685
1685	1685 - 1690
1690	1690 - 1695
1695	1695 - 1700
1700	1700 - 1705
1705	1705 - 1710
1710	1710 - 1715
1715	1715 - 1720
1720	1720 - 1725
1725	1725 - 1730
1730	1730 - 1735
1735	1735 - 1740
1740	1740 - 1745
1745	1745 - 1750
1750	1750 - 1755
1755	1755 - 1760
1760	1760 - 1765
1765	1765 - 1770
1770	1770 - 1775
1775	1775 - 1780
1780	1780 - 1785
1785	1785 - 1790
1790	1790 - 1795
1795	1795 - 1800
1800	1800 - 1805
1805	1805 - 1810
1810	1810 - 1815
1815	1815 - 1820
1820	1820 - 1825
1825	1825 - 1830
1830	1830 - 1835
1835	1835 - 1840
1840	1840 - 1845
1845	1845 - 1850
1850	1850 - 1855
1855	1855 - 1860
1860	1860 - 1865
1865	1865 - 1870
1870	1870 - 1875
1875	1875 - 1880
1880	1880 - 1885
1885	1885 - 1890
1890	1890 - 1895
1895	1895 - 1900
1900	1900 - 1905
1905	1905 - 1910
1910	1910 - 1915
1915	1915 - 1920
1920	1920 - 1925
1925	1925 - 1930
1930	1930 - 1935
1935	1935 - 1940
1940	1940 - 1945
1945	1945 - 1950
1950	1950 - 1955
1955	1955 - 1960
1960	1960 - 1965
1965	1965 - 1970
1970	1970 - 1975
1975	1975 - 1980
1980	1980 - 1985
1985	1985 - 1990
1990	1990 - 1995
1995	1995 - 2000
2000	2000 - 2005
2005	2005 - 2010
2010	2010 - 2015
2015	2015 - 2020
2020	2020 - 2025
2025	2025 - 2030
2030	2030 - 2035
2035	2035 - 2040
2040	2040 - 2045
2045	2045 - 2050
2050	2050 - 2055
2055	2055 - 2060
2060	2060 - 2065
2065	2065 - 2070
2070	2070 - 2075
2075	2075 - 2080
2080	2080 - 2085
2085	2085 - 2090
2090	2090 - 2095
2095	2095 - 2100
2100	2100 - 2105
2105	2105 - 2110
2110	2110 - 2115
2115	2115 - 2120
2120	2120 - 2125
2125	2125 - 2130
2130	2130 - 2135
2135	2135 - 2140
2140	2140 - 2145
2145	2145 - 2150
2150	2150 - 2155
2155	2155 - 2160
2160	2160 - 2165
2165	2165 - 2170
2170	2170 - 2175
2175	2175 - 2180
2180	2180 - 2185
2185	2185 - 2190
2190	2190 - 2195
2195	2195 - 2200
2200	2200 - 2205
2205	2205 - 2210
2210	2210 - 2215
2215	2215 - 2220
2220	2220 - 2225
2225	2225 - 2230
2230	2230 - 2235
2235	2235 - 2240
2240	2240 - 2245
2245	2245 - 2250
2250	2250 - 2255
2255	2255 - 2260
2260	2260 - 2265
2265	2265 - 2270
2270	2270 - 2275
2275	2275 - 2280
2280	2280 - 2285
2285	2285 - 2290
2290	2290 - 2295
2295	2295 - 2300
2300	2300 - 2305
2305	2305 - 2310
2310	2310 - 2315
2315	2315 - 2320
2320	2320 - 2325
2325	2325 - 2330
2330	2330 - 2335
2335	2335 - 2340
2340	2340 - 2345
2345	2345 - 2350
2350	2350 - 2355
2355	2355 - 2360
2360	2360 - 2365
2365	2365 - 2370
2370	2370 - 2375
2375	2375 - 2380
2380	2380 - 2385
2385	2385 - 2390
2390	2390 - 2395
2395	2395 - 2400
2400	2400 - 2405
2405	2405 - 2410
2410	2410 - 2415
2415	2415 - 2420
2420	2420 - 2425
2425	2425 - 2430
2430	2430 - 2435
2435	2435 - 2440
2440	2440 - 2445
2445	2445 - 2450
2450	2450 - 2455
2455	2455 - 2460
2460	2460 - 2465
2465	2465 - 2470
2470	2470 - 2475
2475	2475 - 2480
2480	2480 - 2485
2485	2485 - 2490
2490	2490 - 2495
2495	2495 - 2500
2500	2500 - 2505
2505	2505 - 2510
2510	2510 - 2515
2515	2515 - 2520
2520	2520 - 2525
2525	2525 - 2530
2530	2530 - 2535
2535	2535 - 2540
2540	2540 - 2545
2545	2545 - 2550
2550	2550 - 2555
2555	2555 - 2560
2560	2560 - 2565
2565	2565 - 2570
2570	2570 - 2575
2575	2575 - 2580
2580	2580 - 2585
2585	2585 - 2590
2590	2590 - 2595
2595	2595 - 2600
2600	2600 - 2605
2605	2605 - 2610
2610	2610 - 2615
2615	2615 - 2620
2620	2620 - 2625
2625	2625 - 2630
2630	2630 - 2635
2635	2635 - 2640
2640	2640 - 2645
2645	2645 - 2650
2650	2650 - 2655
2655	2655 - 2660
2660	2660 - 2665
2665	2665 - 2670
2670	2670 - 2675
2675	2675 - 2680
2680	2680 - 2685
2685	2685 - 2690
2690	2690 - 2695
2695	2695 - 2700
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2705	2705 - 2710
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2735	2735 - 2740
2740	2740 - 2745
2745	2745 - 2750
2750	2750 - 2755
2755	2755 - 2760
2760	2760 - 2765
2765	2765 - 2770
2770	2770 - 2775
2775	2775 - 2780
2780	2780 - 2785
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2790	2790 - 2795
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2800	2800 - 2805
2805	2805 - 2810
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2855	2855 - 2860
2860	2860 - 2865
2865	2865 - 2870
2870	2870 - 2875
2875	2875 - 2880
2880	2880 - 2885
2885	2885 - 2890
2890	2890 - 2895
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2930	2930 - 2935
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2940	2940 - 2945
2945	2945 - 2950
2950	2950 - 2955
2955	2955 - 2960
2960	2960 - 2965
2965	2965 - 2970
2970	2970 - 2975
2975	2975 - 2980
2980	2980 - 2985
2985	2985 - 2990
2990	2990 - 2995
2995	2995 - 3000
3000	3000 - 3005
3005	3005 - 3010
3010	3010 - 3015
3015	3015 - 3020
3020	3020 - 3025
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3070	3070 - 3075
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3195	3195 - 3200
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3240	3240 - 3245
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3260	3260 - 3265
3265	3265 - 3270
3270	3270 - 3275
3275	3275 - 3280
3280	3280 - 3285
3285	3285 - 3290
3290	3290 - 3295
3295	3295 - 3300
3300	3300 - 3305
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3360	3360 - 3365
3365	3365 - 3370
3370	3370 - 3375
3375	3375 - 3380
3380	3380 - 3385
3385	3385 - 3390
3390	3390 - 3395
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3455	3455 - 3460
3460	3460 - 3465
3465	3465 - 3470
3470	3470 - 3475
3475	3475 - 3480
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3580	3580 - 3585
3585	3585 - 3590
3590	3590 - 3595
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3605	3605

The Woodruff Creek Project area is considered year-long mule deer range; however, the area is not classified as "crucial habitat". Some migration of deer occurs from the north into the project area with increasing numbers of deer during the winter months (NDOW, 1996).

3.1.5 Threatened, Endangered, and Special Status Species

The U.S. Fish and Wildlife Service (USFWS) was consulted in September 1996 to determine the potential or known regional occurrence of threatened, endangered, or special status species within the vicinity of the Woodruff Creek Exploration Project. No threatened or endangered species were identified by the USFWS to occur within the Woodruff Creek Exploration Project area. The USFWS did indicate that the peregrine falcon, an endangered species, may be an occasional migrant through the Woodruff Creek Project area. The USFWS identified 19 "special status species" that may occur in the vicinity of the project area. The special status species are defined by the BLM as former candidate species that are no longer considered by the USFWS to be candidate (BLM Instruction Memorandum No. NV-96-019, 1996a). Special status species identified by the USFWS that may occur within the Woodruff Creek Exploration Project area are listed in Table 3.3. Consultations with NDOW and Nevada Natural Heritage Program (NNHP) did not identify any additional special status species.

The following paragraphs provide a brief description of each species range and habitat preference and the potential for the species or its habitat to occur within the project area.

TABLE 3.3
SPECIES OF CONCERN THAT MAY OCCUR
WITHIN THE WOODRUFF CREEK EXPLORATION PROJECT AREA

Common Name	Scientific Name
Mammals:	
Fringed myotis	<i>Myotis thysanodes</i>
Long-eared myotis	<i>Myotis evotis</i>
Long-legged myotis	<i>Myotis volans</i>
Pacific Townsend's big-eared bat	<i>Plecotus townsendii townsendii</i>
Pale Townsend's big-eared bat	<i>Plecotus townsendii pallescens</i>
Pygmy rabbit	<i>Brachylagus idahoensis</i>
Small-footed myotis	<i>Myotis ciliolabrum</i>
Spotted bat	<i>Euderma maculatum</i>
Yuma myotis	<i>Myotis yumanensis</i>

TABLE 3.3 (continued)
SPECIAL STATUS SPECIES THAT MAY OCCUR
WITHIN THE WOODRUFF EXPLORATION PROJECT AREA

Common Name	Scientific Name
Birds:	
Black tern	<i>Chlidonias niger</i>
Ferruginous hawk	<i>Buteo regalis</i>
Least bittern	<i>Lxobrychus exilis hesperis</i>
Northern goshawk	<i>Accipiter gentilis</i>
Peregrine falcon	<i>Falco peregrinus anatum</i>
Western burrowing owl	<i>Athene cumicularia hypugea</i>
White-faced ibis	<i>Plegadis chihi</i>
Plants:	
Grouse Creek milk-vetch	<i>Arabis falcatoria</i>
Jan's catchfly	<i>Silene nachlingerae</i>
Least phacelia	<i>Phacelia minutissima</i>
Nevada willowherb	<i>Epilobium nevadense</i>

Vegetation

The USFWS identified the Grouse Creek milk-vetch, Nevada willowherb, least phacelia, and Jan's catchfly as special status species, possibly occurring in the vicinity of the proposed project. Of these species identified by USFWS, suitable habitat for the least phacelia may occur within or near the Woodruff Creek Project area.

Grouse Creek milk-vetch

The Grouse Creek milk-vetch occurs on gravelly soils in open, undisturbed, wind-swept ridge tops (Holland, 1996). The species is rare and occurs at elevations of 6,600 to 9,000 feet (Kartesz, 1988). Because of the topographic nature of the project site, it is unlikely that the Grouse Creek milk-vetch and habitat requirements for the species would occur. The closest known population of this species is over 175 miles away to the northeast.

Nevada willowherb

The Nevada willowherb occurs at elevations 7,400 to 9,200 feet (Kartesz, 1988). Due to the elevational ranges of the species, it is unlikely that the Nevada willowherb would occur within the project area.

Least phacelia

Least phacelia occurs on gravelly soils on moist slopes to sunny flats in the mountains at elevations of 6,000 to 7,800 feet AMSL (Kartesz, 1988). The species occurs in seasonably dry riparian meadows at elevations as high as 9,000 feet AMSL. Portions of the Woodruff Creek Project area may provide suitable habitat for the least phacelia. The closest known population of this species is in the Independence Mountains, over 50 miles away to the north.

Jan's catchfly

Jan's catchfly occurs on mountain slopes on limestone soil with *Pinus* (species of conifers) (Kartesz, 1988). Elevations for this species range from 9,500 to 10,200 feet. Due to the high elevational range of this species, it is unlikely that the species occurs within the Woodruff Creek Project area.

Wildlife

Species of concern for which suitable habitat may occur within or near the Woodruff Creek Exploration Project area include pygmy rabbit and western burrowing owl. Foraging habitat may exist within the Woodruff Creek Exploration Project area for the peregrine falcon, spotted bat, small-footed myotis, fringed myotis, long-legged myotis, northern goshawk, and ferruginous hawk.

Peregrine falcon

The most common habitat characteristic of the peregrine falcon is the presence of tall cliffs, which serve as both nesting and perching sites (Johnsgard, 1990). Two other habitat needs include a water source close to the nest site and an adequate prey base. Historically in northeastern Nevada, peregrine nests are associated with extensive wetlands. The peregrine falcon may be an occasional migrant in the project area. It is highly unlikely that the peregrine falcon would utilize the Woodruff Creek Exploration Project area for foraging. No nesting habitat exists within the area.

Pygmy rabbit

Pygmy rabbits are found most frequently in areas of dense, tall sagebrush in the vicinity of seasonal or perennial streams where soils are deep and suitable for digging burrows. The pygmy rabbit habitat ranges from 4,000 to 8,000 feet AMSL (Bradley, 1997). Based on the species requirements, suitable habitat for the pygmy rabbit may occur within the Woodruff Creek Exploration Project area.

Spotted bat

The spotted bat roosts primarily in cliffs usually composed of sedimentary rock containing vertical cracks and crevices that provide cover. Roosting sites are usually selected near water sources for foraging on moths (Arizona Game and Fish Department, 1993; Easteria, 1970; Wai-Ping and Fenton, 1989). The spotted bat typically flies approximately six to ten kilometers from its roosting site to forage. No roosting habitat for the spotted bat exists within or in the vicinity of the Woodruff Creek Exploration Project area. Therefore, it is unlikely that the species occurs within the project area.

Small-footed myotis

The small-footed myotis tends to occur around rocky environments; however, it may be found in a variety of other habitats such as forests, near watercourses, and even in desert-like areas in central Idaho (Zeweloff, 1988). The species roosts in caves, mines, buildings, and trees and is usually found below elevations of 6,500 feet. No potential roosting habitat is present within the Woodruff Creek Exploration Project area; however, the species may forage in the area.

Long-eared myotis

The long-eared myotis typically inhabits conifer forests and pinon-juniper communities occurring in the mountains. Roosting areas can be found in buildings, hollow trees, caves, mines, cliff crevices, and sink holes. No suitable roosting habitat exists for the long-eared myotis within the Woodruff Creek Exploration Project area.

Fringed myotis

The fringed myotis inhabits a wide variety of environments, from desert scrub communities to fir tree stands in the mountains. Pinon woodlands and oak communities seem to be one of the most commonly used community types. This species roosts in caves, mine tunnels, and buildings. No suitable roosting habitat exists for the fringed myotis within the Woodruff Creek Exploration Project area.

Long-legged myotis

The long-legged myotis primarily inhabits pinon-juniper, oak, and coniferous forests, but may also be found along watercourses and in deserts (Zeweloff, 1988). The species roosts in buildings, rock crevices, cliffs, and trees. In many areas, they are known to be associated with water, often being observed flying 10 to 15 feet over ponds, streams, water tanks, and open meadows (Arizona Game and Fish Department, 1993). No roosting habitat exists for the long-

legged myotis within the Woodruff Creek Exploration Project area; however, the species may forage in the area.

Yuma myotis

The Yuma myotis roosts in caves and buildings. No roosting habitat exists for the Yuma myotis within the Woodruff Creek Exploration Project area.

Pale Townsend's big-eared bat

The Pale Townsend's big-eared bat is often found in scrub plant communities as well as pine, pinon-juniper, and deciduous forests. The species roosts in caves, buildings, and mines. No roosting or foraging habitat exists within the Woodruff Creek Exploration Project area.

Pacific Townsend's big-eared bat

The Pacific Townsend's big-eared bat inhabits a variety of communities including coastal conifer and broad-leaf forests, oak and conifer woodlands, arid grasslands and deserts, and high-elevation forests and meadows. The species roosts in limestone caves, lava tubes, mine tunnels, buildings, and other human-made structures (Williams, 1986). No roosting or foraging habitat exists within the Woodruff Creek Exploration Project area.

Northern goshawk

The northern goshawk inhabits mountain forests in spring and summer with some altitudinal migration into foothills and valleys in the winter (Terres, 1980). Aspen groves are the preferred nesting sites for the northern goshawk in Nevada (Ryser, 1985), with nest trees typically located within 100 feet of water (Herron, et.al., 1985). The northern goshawk may be an occasional migrant in the project area. No suitable nesting habitat occurs within the Woodruff Creek Exploration Project area. The northern goshawk may migrate through, but, it is unlikely that goshawks spend any extensive time here, even to forage.

Western burrowing owl

Western burrowing owls prefer open treeless flatlands in which to select burrows. The species typically uses abandoned burrows of ground dwelling animals such as badger, coyote, and ground squirrels to roost and nest in (Herron, et.al., 1985). Their habitat includes areas of grasses, forbs, and early shrub stages from annual grassland up to ponderosa pine type (BLM, 1996c). The western burrowing owl habitat ranges from 2,000 to 7,000 feet AMSI (Bradley,

located mostly within the Woodruff Creek Exploration Project area, however, the species may range in the area.

Range within the Woodruff Creek Exploration Project area

The range within the Woodruff Creek Exploration Project area is located mostly within the Woodruff Creek Exploration Project area.

Range within the Woodruff Creek Exploration Project area

The range within the Woodruff Creek Exploration Project area is located mostly within the Woodruff Creek Exploration Project area.

Range within the Woodruff Creek Exploration Project area

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Range within the Woodruff Creek Exploration Project area

The range within the Woodruff Creek Exploration Project area is located mostly within the Woodruff Creek Exploration Project area.

Range within the Woodruff Creek Exploration Project area

The range within the Woodruff Creek Exploration Project area is located mostly within the Woodruff Creek Exploration Project area.

1997). Based on the species habitat requirements, the western burrowing owl may occur within the Woodruff Creek Exploration Project area.

Ferruginous hawk

In Nevada, the ferruginous hawk is dependent on scattered juniper trees found at the interface of the pinon-juniper and desert shrub communities for nesting habitat (Herron, et.al., 1985). The species nests in areas that overlook broad expanses of open ground that provides an adequate supply of rodents and rabbits. The ferruginous hawk may forage within the Woodruff Creek Exploration Project area; however, no nesting habitat occurs within the area.

Black tern

The Black tern nests in smaller ponds and marshes. No habitat for the Black tern exists within the Woodruff Creek Exploration Project area.

Least bittern

The least bittern requires emergent freshwater marshes containing tall cattails and sedges. No habitat for the least bittern exists within or in the vicinity of the Woodruff Creek Exploration Project area.

White-faced ibis

The white-faced ibis nests in emergent vegetation with a preference for tules. No habitat for the white-faced ibis exists within the Woodruff Creek Exploration Project area.

3.1.6 Visual Resources

The Woodruff Creek Exploration Project is located within Class III and Class IV Visual Resources Management (VRM) areas. Class III VRM areas may contain contrasts to the basic landscape elements which are evident but remain subordinate to the existing landscape. Class IV VRM areas may contain contrasts which are evident and are the dominant feature of the landscape, but repeat the form, line, color, and texture of the characteristic landscape. Manmade features within the project vicinity include the Rain Mine access road, a powerline, exploration roads, and drill pads.

Land forms are rolling and rounded with moderate to steep slopes. Landscape colors include reddish brown and dark gray (soil and rock outcrops) and gray-green (vegetation). Previous

mineral exploration activities, similar to those proposed, have created horizontal to very shallow diagonal lines and have exposed the dark gray and reddish brown soils.

3.1.7 Cultural Resources

From 1983 to 1996, eight Class III cultural resource (CR) inventories (CR Reports: 1-685 (P), 1-1026 (P), 1-1122 (P), 1-1263 (P); 1-1365 (N), 1-1369 (P), 1-1706 (P), and 1-1593 (P)) have been conducted on the public and split estate lands within and adjacent to the project area. The inventories were conducted to determine if any cultural resources exist in the project area and, if so, whether they may be eligible for inclusion in the National Register of Historic Places (NRHP) (Newsome, 1996).

Thirty-one archaeological sites and thirty-eight isolated artifacts were found to be present within the Woodruff Creek Exploration Project area. Of these 31 sites, 25 sites have been determined ineligible for inclusion in the NRHP because they lack the potential to significantly contribute to the understanding of the prehistory and history of the area. No further evaluation is required at these ineligible sites. Of the 31 sites, six (CRNV-11-9093, CRNV-11-9094, CRNV-11-9098, CRNV-11-9099, CRNV-11-9110, and CRNV-11-9111) are considered eligible for inclusion in the NRHP under criterion D of 36 CFR 60.4. These data are documented in report BLM 1-1593 (P), on file at the BLM Elko Field Office.

3.2 NO ACTION ALTERNATIVE

The description of the affected environmental for the No Action alternative would be the same as that for the proposed action.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 PROPOSED ACTION

4.1.1 Water Resources

Although perennial, intermittent, and ephemeral surface water resources exist within the project area, proposed exploration activities would avoid all surface water. Therefore, the proposed Woodruff Creek Exploration Project would not result in impacts to surface water resources. The Woodruff Creek Exploration Project does have the potential to create erosion and increase sediment from the development of exploration access roads, drill sites, and trench preparation. Proposed environmental protection measures, identified in Section 2.2, would keep indirect impacts to surface waters to a minimum by using Best Management Practices. Should indirect impacts to water resources occur, they would be temporary, lasting until drill holes are plugged and exploration roads, drill sites, and trenches are successfully reclaimed with vegetation.

Proposed exploration activities could result in potential direct impacts to groundwater resources since the proposed drilling activities may intercept groundwater. If groundwater is encountered, indirect impacts created could include erosion if the water is discharged. Should impacts to groundwater occur, they would occur sporadically as drill sites are developed throughout the 6,490-acre project area as operations are conducted over the proposed three-year Plan of Operation. If perched aquifers are encountered, the aquifer could be drained. However, all holes would be plugged according to NAC 534, thus avoiding a potential problem. Environmental protection measures have been incorporated into the proposed action (Section 2.2) which, when implemented, would reduce direct and indirect impacts to groundwater resources.

4.1.2 Soils

Direct impacts to soils would result from the construction, development, and use of access roads, drill sites, sumps, and trenches and include the modification of soil physical characteristics, loss of soil to wind and water erosion, and decreased soil biological activity. Changes would result from mixing soil horizons which reduce the organic matter content of surface soil and may lower soil productivity. In areas of concentrated drilling, the water erosion hazard is primarily moderate and the wind erosion hazard is primarily slight. Runoff

would increase when soils are disturbed. Most of the subject soils have rapid runoff. Current reclamation activities in the area have proven successful in the recent past. Total disturbance to soil resources from the proposed project would be approximately 59 acres.

When access roads are developed, soils salvaged would be bermed along the side of the road. Newmont estimates that an average depth of six inches of soil material would be temporarily removed; this equates to approximately 47,500 cubic yards of soils salvaged. The maximum amount of displaced soil would not occur all at once, nor at one location, but would occur as drill sites, roads, and trenches would be developed. Impacts to soils would be dispersed over the 6,490-acre project area and would occur sporadically during the three-year drilling program. In addition, cross-country travel and existing access roads would be utilized to reduce surface disturbance whenever possible. Minimal impacts to the soils would result due to the replacement of all soils during reclamation and the use of Best Management Practices such as, but not limited to, silt traps and fences, sediment ponds, and/or settling basins (see Section 2.2.10). Additionally, the disturbance activities would occur over a three-year period of time.

4.1.3 Vegetation

The direct impact from the proposed project would be the disturbance of 59 acres of sagebrush-upland communities. Newmont plans to revegetate exploration disturbance as described in Section 2.2.13. Revegetation success may be hindered by generally low soil permeability, low available water capacity, and high water erosion potential (see Appendix A). Exploration activities would utilize Best Management Practices to keep direct impacts to vegetation to a minimum. After exploration activities cease, vegetation would progressively become reestablished in disturbed areas by both reseeding and recolonization.

Disturbances created would mostly be short-term and linear (roads) or patchy (drill sites) in form. This type of development would be readily available for recolonization from vegetation in the surrounding areas.

4.1.4 Wildlife

Impacts to wildlife (such as common mammals, reptiles and birds) would consist of temporary habitat loss, wildlife displacement as a direct result of the removal and/or crushing of vegetation cover, and disturbance from human activity and noise. Wildlife may tend to avoid active drilling sites until drilling activities cease. The Woodruff Creek Exploration Project would result in the temporary loss of 59 acres of sagebrush-upland habitat. This impact would not

occur all at once, but would occur sporadically throughout the 6,490-acre project area within a three-year project life as drill sites are developed. Impacts to wildlife habitat would not eliminate or impact wildlife territories or populations.

Raptors, such as the golden eagle and common nighthawk may forage over the project area; however, activities resulting from the Woodruff Creek Exploration Project are not anticipated to impact any raptor species.

Soil disturbances and compaction may destroy animal burrows, injure or kill less mobile wildlife species, or trap wildlife in deep burrows. These incidents would not be expected to have an impact on the wildlife community due to the fact that drilling activities would occur sporadically throughout the project area and the proposed disturbance represents less than one percent of the total project area (6,490 acres).

Mule deer are known to frequent the Woodruff Creek Exploration Project area. Impacts to mule deer would be the temporary removal of habitat and potential forage (59 acres). Impacts to mule deer would occur gradually as exploration activities develop over the three-year project life. In addition, this reduction of habitat and forage represents less than one percent of the total habitat and forage available within the project area. Therefore, minimal to no impacts to mule deer are likely.

4.1.5 Threatened, Endangered, and Special Status Species

Vegetation

There are no known threatened or endangered species occurring within the Woodruff Creek Exploration Project area. Therefore, the proposed action would not result in any impacts to threatened or endangered species. The least phacelia, a special status species, inhabits moist soils normally associated with the edges of wet meadows or drainages. Proposed exploration activities would avoid all surface waters and associated riparian habitat. This type of habitat is very limited in the project area. The least phacelia is not expected to be impacted by the Woodruff Creek Exploration activities.

Wildlife

The proposed action would have no impacts to threatened or endangered species because none are known to utilize habitat on or near the project area. The project area has been identified as having suitable habitat for the pygmy rabbit and burrowing owl; both are special status

occur at or near the project area. The project area is located within a
state park and is a designated area for the protection of wildlife. The project
area is located within a designated area for the protection of wildlife.

Lighting, such as the parking area and common nightstand may cause some
disturbance to the project area. The project area is located within a
designated area for the protection of wildlife.

For the purpose of this project, the project area is located within a
designated area for the protection of wildlife. The project area is located
within a designated area for the protection of wildlife.

The project area is located within a designated area for the protection of
wildlife. The project area is located within a designated area for the
protection of wildlife.

2.1.2. The project area, the project area, and the project area

Vegetation

There are no known threats to the project area. The project area is located
within a designated area for the protection of wildlife. The project area is
located within a designated area for the protection of wildlife.

Wildlife

The project area is located within a designated area for the protection of
wildlife. The project area is located within a designated area for the
protection of wildlife.

species. There is no inventory of the project area. However, the pygmy rabbit and the western burrowing owl inhabits elevations from 4,000 to 7,000 feet AMSL. Less than one percent of the project area is suitable habitat for the pygmy rabbit and western burrowing owl; less than one percent of the suitable habitat could be potentially disturbed.

4.1.6 Visual Resources

Short-term impacts to line and color would result from the proposed action. The horizontal and shallow diagonal bands and lines from the exploration roads, trenches, and drill pads would create moderate color and line contrasts with the characteristic landscape. Moderate color contrasts would result from the vegetation removal associated with road and drill pad construction.

Successful reclamation of the exploration roads, trenches, and drill pads would reduce the long-term visual impacts of the proposed action. Class III and IV VRM objectives would be met.

4.1.7 Cultural Resources

The six unmitigated archaeological sites (CRNV-11-9093; CRNV-11-9094; CRNV-11-9098; CRNV-11-9099; CRNV-11-9110; and CRNV-11-9111) within the project area found eligible for inclusion in the NRHP could be impacted by the proposed action. Damage to these sites could occur through scraping, compacting, or otherwise disturbing the surface and subsurface deposits.

No adverse impacts to cultural resources are expected as a result of the proposed project since Newmont would avoid or mitigate all cultural sites which are potentially eligible for the National Register.

4.2 NO ACTION ALTERNATIVE

Implementation of the No Action Alternative would result in the denial of the proposed Woodruff Creek Exploration Project.

4.3 MITIGATION

4.3.1 Cultural Resources

Prior to initiating the proposed action, Newmont would:

- 1) Stake and/or sign an avoidance area around cultural sites CRNV-11-9093, CRNV-11-9094, CRNV-11-9098, CRNV-11-9099, CRNV-11-9110, and CRNV-

However, the project is not a...
 The project is not a...
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4.1.2 Visual Resources

Short-term impacts to the...
 Short-term impacts to the...
 Short-term impacts to the...

Long-term impacts to the...
 Long-term impacts to the...
 Long-term impacts to the...

4.1.3 Cultural Resources

The project is not a...
 The project is not a...
 The project is not a...

The project is not a...
 The project is not a...
 The project is not a...

4.2 NO ACTION ALTERNATIVE

The project is not a...
 The project is not a...
 The project is not a...

4.3 MITIGATION

4.3.1 Cultural Resources

The project is not a...
 The project is not a...
 The project is not a...

The project is not a...
 The project is not a...
 The project is not a...

11-9111 with steel posts to ensure that a visible barrier is present between the cultural site and the surrounding operations area in order to protect the cultural sites from damage.

- 2) Place avoidance barriers a minimum of 30 meters from the perimeter of the cultural site(s). Where existing roads run through and/or adjacent to the perimeter of the cultural site(s), avoidance barriers would be placed along the roadside.
- 3) Restrict any maintenance to existing roads within an avoidance area to the limits of the existing road berm.
- 4) Direct its personnel and the personnel of its contractors to avoid all staked and/or signed areas under penalty of Archaeological Resources Protection Act of 1979 (16 U.S.C. 470).

In the event an eligible or unevaluated cultural site is subsequently found to have been damaged by activities associated with the proposed action, Newmont would draft a data recovery plan for the affected site(s) within three months. After the data recovery plan has been accepted by the BLM and the State Historic Preservation Office (SHPO), Newmont would implement data recovery at the affected cultural site(s) within one year of the date of acceptance of the data recovery plan by the BLM and the SHPO.

4.4 CUMULATIVE IMPACTS

All resource values have been evaluated for cumulative impacts. It has been determined that cumulative impacts would be negligible as a result of the proposed action or alternative. The proposed use of best management practices to prevent soil erosion, the implementation of the proposed cultural resources mitigation, the proposed reclamation of all disturbance following operations and the fact that there is no reasonable foreseeable future action leads to this conclusion.

4.5 MONITORING

A BLM representative would make regular field inspections of the Woodruff Creek Exploration Project area. These inspections would be performed throughout construction, operation, and reclamation of the proposed action. All field compliance inspections would be documented into the project file at the BLM office in Elko, Nevada.

2-1-81 / With steel piers to ensure that a stable level is present between the
 ground and the surrounding conditions in order to protect the cultural
 sites from damage.

2) From avoidance provide a minimum of 50 meters from the perimeter of the
 cultural sites. Where existing roads run through or adjacent to the
 perimeter of the cultural sites, avoidance barriers would be placed along the
 road.

3) Restrict any movement to existing roads within an avoidance area to the limits
 of the existing road base.

4) Grant permission and the permission of the contractor to avoid as stated
 and/or signed road works permit - Archaeological Resource Protection Act of
 1973 (16 U.S.C. 470).

In the event an eligible or unexcused cultural site is discovered for the first time
 during the recovery process, the proposed action, recovery plan and a date
 recovery plan for the affected area, within three months. After the date recovery plan has
 been accepted by the BLM and the State Historic Preservation Office (SHPO), recovery work
 implement date recovery of the affected cultural sites within one year of the date of
 acceptance of the date recovery plan by the BLM and the SHPO.

4.4 CUMULATIVE IMPACTS

All impacts have been evaluated for cumulative impacts. It has been determined that
 cumulative impacts would be negative as a result of the proposed action or alternative. The
 proposed use of best management practices to prevent soil erosion, the implementation of the
 proposed cultural resources management plan, the proposed reduction of the disturbance
 operations and the fact that there is no reasonable foreseeable future action leads to the
 conclusion.

4.5 MITIGATION

A BLM representative would make regular inspections of the Westville Creek Excavation
 project area. These inspections would be performed through observation, question, and
 verification of the proposed action. All compliance inspections would be documented in the
 project file in the BLM office in Chad, Nevada.

5.0 CONSULTATION AND COORDINATION

5.1 LIST OF PREPARERS

U.S. Bureau of Land Management - Elko Field Office

Tom Schmidt	Project Lead, Plan Review, Geology, Paleontology
Evelyn Treiman	NEPA Coordination, Visual Resources, Recreation, Wilderness
Beth Clarke	Cultural Resources, Native American Religious Concerns
Kelly Amy	Wetlands/Riparian Zones
Ken Nelson	Lands
Nick Rieger	Hazardous Materials
Tom Warren	Livestock Grazing, Vegetation
Carol Marchio	Soils, Water Resources, Air Quality
Roy Price	Threatened, Endangered, and Special Status Species-Vegetation, Wildlife

WESTEC, Inc.

Valerie Sawyer	Elko Branch Manager
Gary Goodrich	Project Manager
Catherine Clark	Project Scientist
Diane J. Taylor	Staff Scientist

5.2 PERSONS, GROUPS, OR AGENCIES CONSULTED

Elko County

George Boucher	Elko County Manager
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Newmont Gold Company

Patrick Rogers	Senior Environmental Coordinator
Danena M. Ike	Permitting Coordinator II

Mark DuBois Hydrologist
Anthony Longo Senior Geologist

Nevada Division of Wildlife

Larry Barngrover Manager District II
Rory E. Lamp Biologist

Nevada Natural Heritage Program

Jim Morefield Biologist
Kevin Cooper Data Manager

P-III Associates, Inc.

Alan R. Schroedl Principal Investigator
Dan Newsome Field Supervisor

Natural Resource Conservation Service - Work Unit Office, Elko, Nevada

Paul Blackburn Soil Scientist

U.S. Fish and Wildlife Service

Carlos Mendoza State Supervisor
Janet Bair Biologist

Te-Moak Tribal Council

Felix Ike Chairman

Western Shoshone Preservation Society

Larry Kibby Director/Consultant

Other Persons Contacted

Bob Holland Plant Ecologist

5.3 PUBLIC NOTICE AND AVAILABILITY

An initial coordination meeting was held on September 4, 1996, between the Elko Field BLM and Newmont to determine the scope of the Woodruff Creek Exploration Project. On September 10, 1996, scoping letters were sent to the U.S. Fish and Wildlife Service, Nevada

Division of Wildlife, and the Nevada Natural Heritage Program. On October 11, 1996, scoping letters were delivered to the Western Shoshone Historic Preservation Society and Felix Ike, Chairman of Te-Moak Tribal Council. A notice regarding the proposed Woodruff Creek Exploration Project requesting written comments was also published in the *Elko Daily Free Press* and several other newspapers, September 28, 1996. The project was included in the Elko Environmental Calendar in the December 1996 issue. Elko County, George Boucher, Elko County Manager, was notified by the BLM on March 24, 1997. The USFWS, NDOW, and the NNHP are the only agencies to respond to the scoping letters. No additional public comments have been received to date.

Three of the... and the Nevada National Highway Program. On October 17, 1955, according
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... in the... 1955 issue. The... George...
... was... by the... in 1955. The... and the
... in the... The...
... have been received in...

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FIGURES



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FIGURES

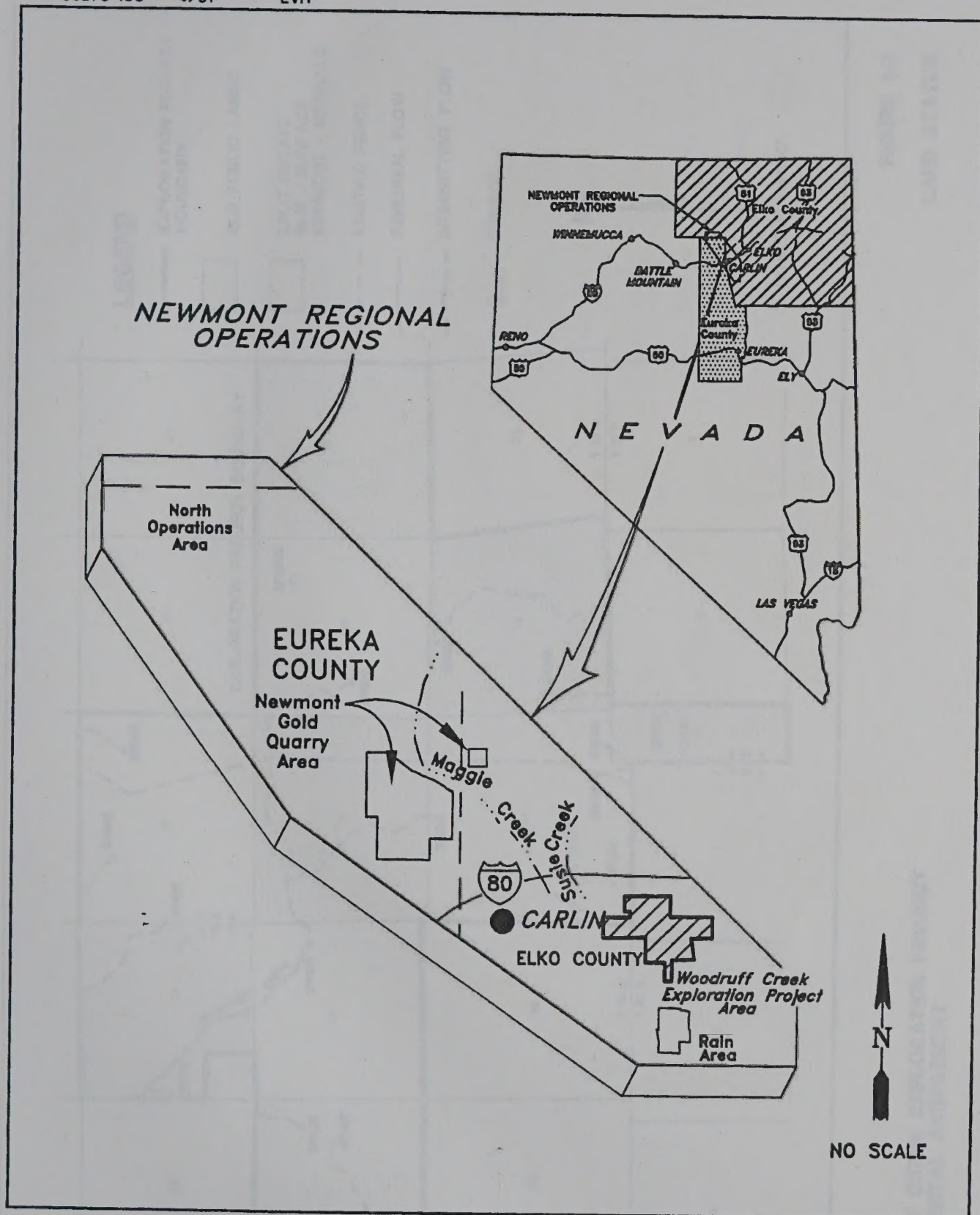
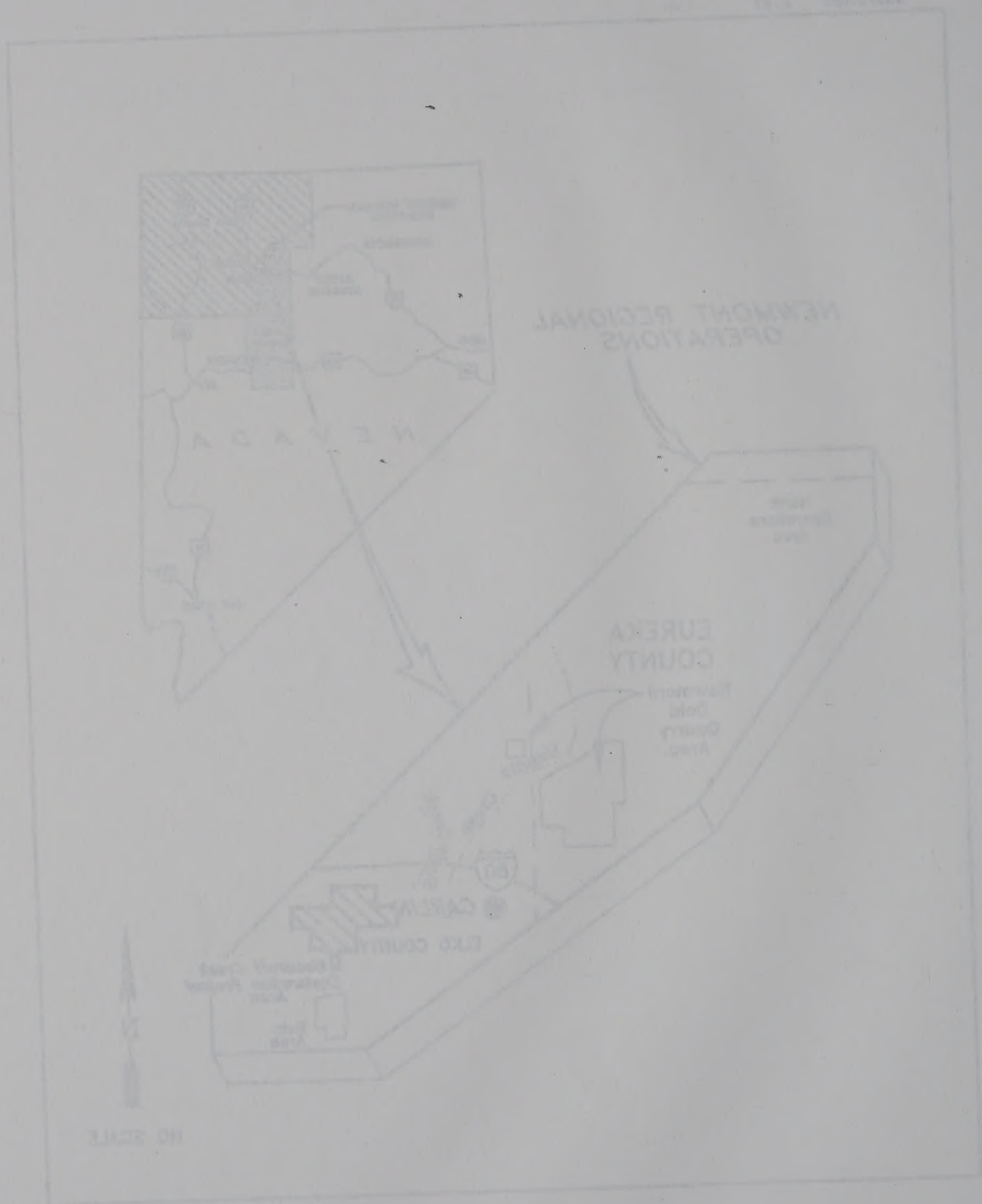
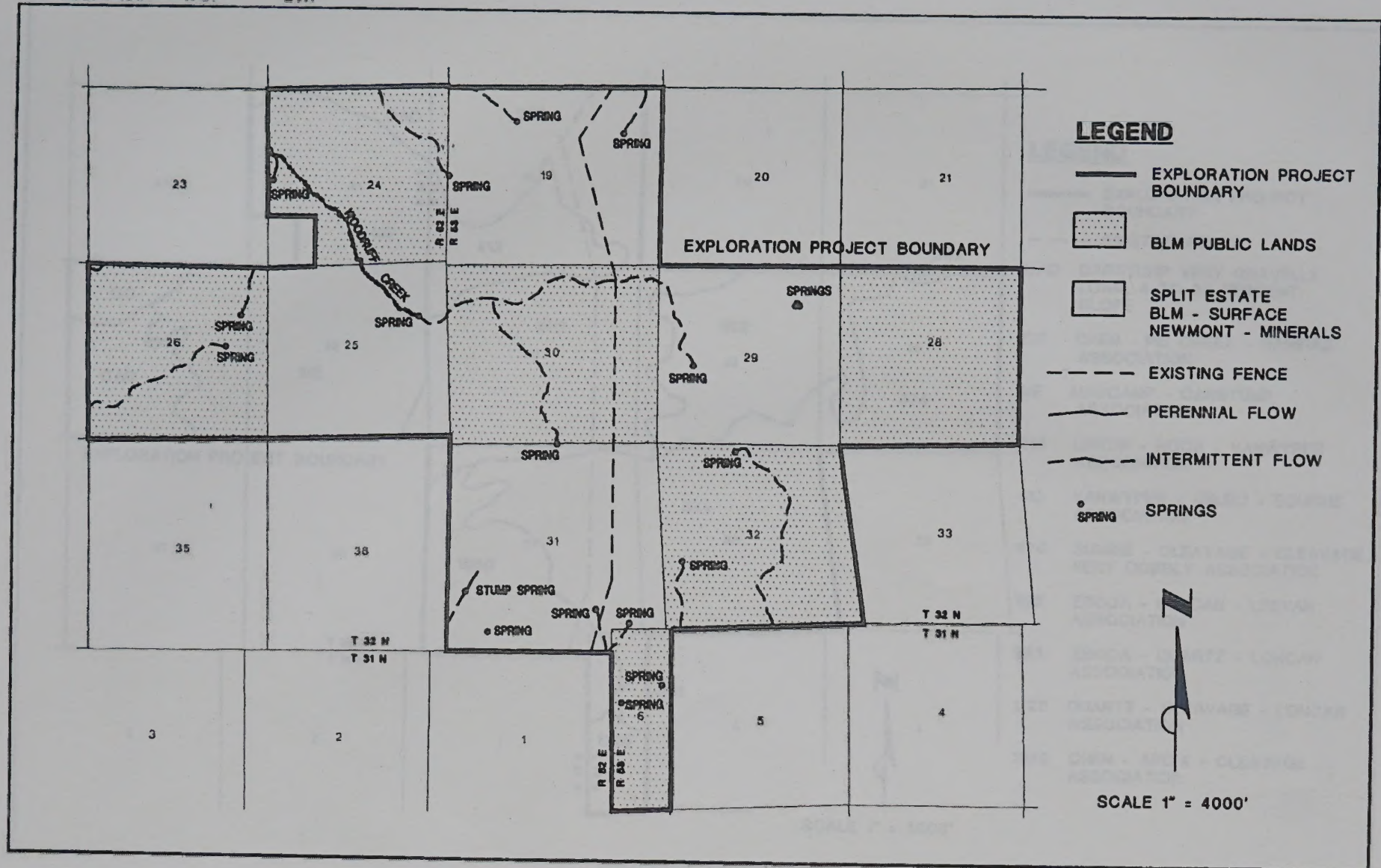


FIGURE 1-1

**WOODRUFF CREEK EXPLORATION PROJECT
ENVIRONMENTAL ASSESSMENT**

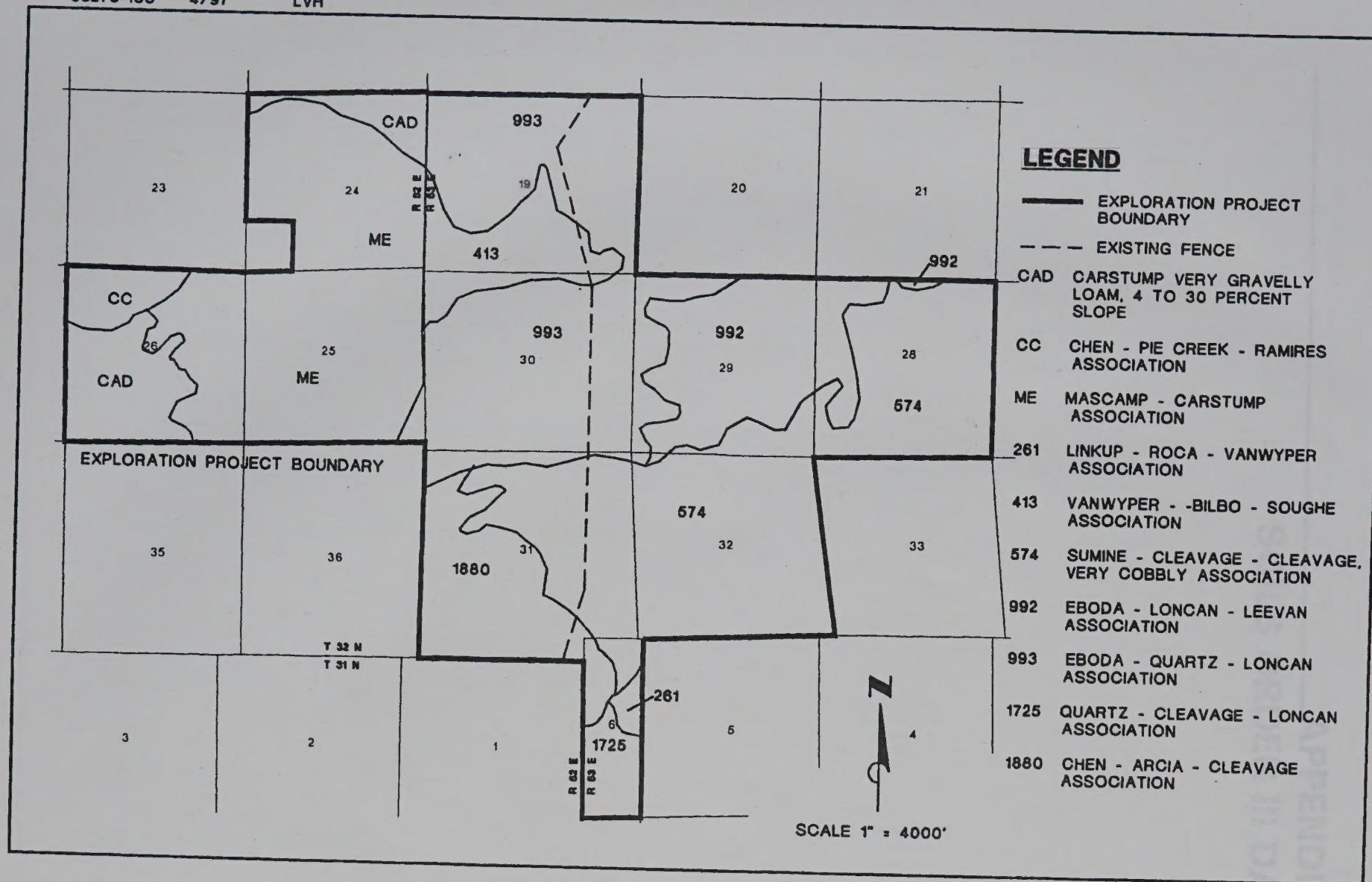
**REGIONAL
LOCATION MAP**





WOODRUFF CREEK EXPLORATION PROJECT
ENVIRONMENTAL ASSESSMENT

FIGURE 1-2
LAND STATUS



WOODRUFF CREEK EXPLORATION PROJECT
ENVIRONMENTAL ASSESSMENT

FIGURE 3-1
SOILS

APPENDIX A
SOILS ORDER III DATA

APPENDIX A
SOILS IN THE VICINITY OF THE WOODRUFF CREEK EXPLORATION PROJECT AREA

USDA-SCS Map Unit	Soil Series & Surface Texture	Elevation (feet)	Permeability	Available Water Capacity	Erosion Hazard Water/Wind	Runoff	Dominant Present Vegetation	Landscape position/ % Slope	Approximate Solum Range ² (inches)	Topsoil Rating ¹
CAD Carstump very gravelly loam	Carstump very gravelly loam, 4 to 30 percent slopes	5,500 to 6,000	slow	low	moderate/ slight	medium	big sagebrush, Douglas rabbitbrush, cheatgrass, Sandberg bluegrass	uplands 4-30	20-40	Poor: slope, small stones.
CC Chen-Pie Creek-	Chen cobbly loam	5,500 to 6,500	very slow	very low	high/ slight	rapid	low sagebrush, bluebunch wheatgrass, bottlebrush squirreltail	uplands 8-30	12	Poor: slope, small stones, thin layer.
Ramires Assn.	Pie Creek cobbly loam	5,500 to 6,500	very slow	low	high/ slight	rapid	low sagebrush, bluebunch wheatgrass, Sandberg bluegrass	rolling upland hills 15-30	24	Poor: too clayey, slope, large stones.
	Ramires very stony loam	5,500 to 6,500	slow	low	high/ moderate	rapid	big sagebrush, Douglas rabbitbrush, Sandberg bluegrass	interspersed 15-50	20 to 32	Poor: slope, large stones.
ME Mascamp-Carstump Assn.	Mascamp, very gravelly loam	5,500 to 6,000	moderately slow	very low	high/ slight	rapid	big sagebrush, Thurber needlegrass, bottlebrush squirreltail, Sandberg bluegrass	sides of uplands 30 to 50	12 to 20	Poor: small stones, slope.
	Carstump, very gravelly loam	5,500 to 6,000	slow	low	moderate/ slight	medium	big sagebrush, Douglas rabbitbrush, cheatgrass, Sandberg bluegrass	ridgetops 4 to 30	20 to 40	Poor: slope, small stones.

APPENDIX A
SOILS IN THE VICINITY OF THE WOODRUFF CREEK EXPLORATION PROJECT AREA

USDA-SCS Map Unit	Soil Series & Surface Texture	Elevation (feet)	Permeability	Available Water Capacity	Erosion Hazard Water/ Wind	Runoff	Dominant Present Vegetation	Landscape position/ % Slope	Approximate Solum Range ² (inches)	Topsoil Rating ¹
261 Linkup- Roca- Vanwyper Assn.	Linkup, very cobbly loam	6,000 to 7,000	slow	1.4" to 2.2"	slight/ slight	rapid	low sagebrush, Douglas rabbitbrush, Sandberg bluegrass	crests and convex side slopes mountain 15-30	8 to 16	Poor: depth to rock, large stones, slope
	Roca, very gravelly loam	6,000 to 7,000	very slow	1.7" to 3.0"	slight/ slight	rapid	big sagebrush, Douglas rabbitbrush, Sandberg bluegrass	concave north-facing side slopes mountains 15-30	20 to 29	Poor: small stones, slope
	Vanwyper, very cobbly loam	6,000 to 7,000	slow	2.2" to 3.2"	slight/ slight	rapid	big sagebrush, Douglas rabbitbrush, Sandberg bluegrass, cheatgrass	smooth south-facing side slopes mountains 15-30	30 to 39	Poor: large stones, slope
413 Vanwyper- Bilbo- Soughe Assn.	Vanwyper, very gravelly loam	5,000 to 6,500	slow	2.3" to 3.5"	moderate/ slight	rapid	big sagebrush, Douglas rabbitbrush, bluebunch wheatgrass, Sandberg bluegrass	convex side slopes hills 30-50	10 to 25	Poor: small stones, slope
	Bilbo, gravelly loam	5,000 to 6,500	slow	2.2" to 3.2"	high/slight	rapid	big sagebrush, Douglas rabbitbrush, bluebunch wheatgrass, Sandberg bluegrass	concave, south-facing side slopes hills 30-50	60 +	Poor: small stones, slope
	Soughe, very gravelly loam	6,100 to 6,500	moderately slow	1.0" to 1.4"	slight/ slight	medium	big sagebrush, rabbitbrush, Sandberg bluegrass, bluebunch wheatgrass	crests hills 4-15	10 to 15	Poor: depth to rock, small stones

APPENDIX A
SOILS IN THE VICINITY OF THE WOODRUFF CREEK EXPLORATION PROJECT AREA

USDA-SCS Map Unit	Soil Series & Surface Texture	Elevation (feet)	Permeability	Available Water Capacity	Erosion Hazard Water/ Wind	Runoff	Dominant Present Vegetation	Landscape position/ % Slope	Approximate Solum Range ² (inches)	Topsoil Rating ¹
574 Sumine- Cleavage- Cleavage, very cobble Assn.	Sumine, very gravelly loam	5,600 to 7600	moderate	2.4" to 3.6"	moderate/ slight	rapid	mountain big sagebrush, antelope bitterbrush, bottlebrush squirreltail	south-facing concave side slopes mountains 15-50	20 to 30	Poor: small stones, slope
	Cleavage, very gravelly loam	5,600 to 7,600	moderately slow	1.5" to 1.8"	slight/ slight	rapid	low sagebrush, antelope bitterbrush, Sandberg bluegrass	smooth to slightly convex side slopes mountains 15-30	10 to 15	Poor: depth to rock, small stones, slope
	Cleavage, very cobble loam	5,600 to 7,600	Moderately slow	1.5" to 1.8"	slight/ slight	rapid	black sagebrush, low sagebrush, Sandberg bluegrass	crests and convex side slopes mountains 15-30	10 to 15	Poor: depth to rock, small stones, slope
992 Eboda- Loncan- Leevan Assn.	Eboda, gravelly loam	6,000 to 7,200	moderately slow	4.9" to 6.8"	moderate/ slight	rapid	big sagebrush, Idaho fescue	slightly concave side slopes mountains 15-30	20 to 40	Poor: small stones, slope
	Loncan, very gravelly loam	6,000 to 7,200	moderate	1.6" to 3.1"	moderate/ slight	rapid	mountain big sagebrush, snowberry, Idaho fescue, bluebunch wheatgrass	concave north-facing side slopes mountains 30-50	20 to 30	Poor: small stones, slope
	Leevan, cobble loam	6,000 to 7,200	slow	2.4" to 3.8"	moderate/ slight	rapid	low sagebrush, Idaho fescue	smooth and convex north and east- facing side slopes 15-30	14 to 24	Poor: small stones, slope

APPENDIX A
SOILS IN THE VICINITY OF THE WOODRUFF CREEK EXPLORATION PROJECT AREA

USDA-SCS Map Unit	Soil Series & Surface Texture	Elevation (feet)	Permeability	Available Water Capacity	Erosion Hazard Water/Wind	Runoff	Dominant Present Vegetation	Landscape position/ % Slope	Approximate Solum Range ² (inches)	Topsoil Rating ¹
993 Edoba-Quartz-Loncan Assn.	Eboda, gravelly loam	5,900 to 6,300	moderately slow	4.9" to 6.8"	moderate/ slight	rapid	big sagebrush, bluebunch wheatgrass, Idaho fescue	lower smooth north-facing side slopes hills 15-30	33 to 39	Poor: small stones, slope
	Quarz, very gravelly loam	5,900 to 6,800	slow	2.5" to 3.1"	moderate/ slight	rapid	big sagebrush, bluebunch wheatgrass, basin wildrye	south-facing side slopes hills 30-50	20 to 25	Poor: small stones, slope
	Loncan, very gravelly loam	5,900 to 6,800	moderate	1.6" to 3.1"	moderate/ slight	rapid	mountain big sagebrush, Thurber needlegrass, Idaho fescue	concave north-facing side slopes hills 30-50	20 to 30	Poor: depth to rock, slope
1725 Quartz-Cleavage-Loncan Assn.	Quarz, cobbly loam	7,500 to 8,000	slow	2.6" to 3.2"	moderate/ slight	rapid	mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass	lower convex south-facing side slopes mountains 15-50	20 to 25	Poor: small stones, slope
	Cleavage, extremely gravelly loam	7,500 to 8,000	moderately slow	1.5" to 1.8"	slight/ slight	rapid	black sagebrush, low sagebrush, Sandberg bluegrass	crests and upper convex side slopes mountains 15-50	10 to 15	Poor: depth to rock, small stones, slope
	Loncan, very gravelly loam	6,600 to 8,000	moderate	1.6" to 3.1"	moderate/ slight	rapid	mountain big sagebrush, antelope bitterbrush, sericeberry, Sandberg bluegrass	concave north-facing side slopes mountains 15-50	20 to 30	Poor: small stones, slope

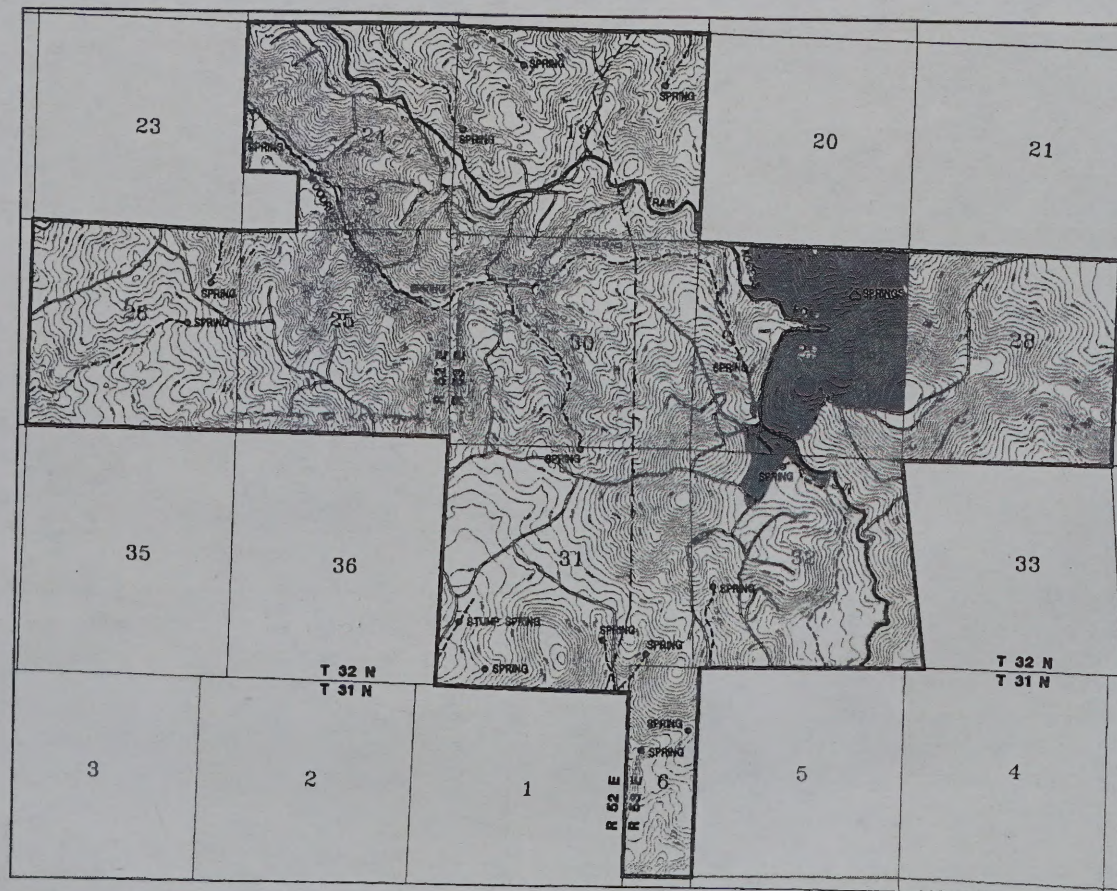
APPENDIX A
SOILS IN THE VICINITY OF THE WOODRUFF CREEK EXPLORATION PROJECT AREA

USDA-SCS Map Unit	Soil Series & Surface Texture	Elevation (feet)	Permeability	Available Water Capacity	Erosion Hazard Water/Wind	Runoff	Dominant Present Vegetation	Landscape position/ % Slope	Approximate Solum Range ² (inches)	Topsoil Rating ¹
1880 Chen-Arcia-Cleavage Assn.	Chen, very cobbly loam	6,000 to 7,000	very slow	0.8" to 1.0"	slight/ slight	rapid	low sagebrush, bluebunch wheatgrass, Thurber needlegrass	convex side slopes of mountains 15-30	10 to 15	Poor: depth to rock, small stones, slope
	Arcia, gravelly loam	6,000 to 7,000	slow	4.2" to 5.9"	high/slight	rapid	big sagebrush, bluebunch wheatgrass, Idaho fescue	upper concave north-facing side slopes mountains 30-50	34 to 39	Poor: small stones, slope
	Cleavage, extremely gravelly loam	6,000 to 7,000	moderately slow	1.5" to 1.8"	slight/ slight	medium	low sagebrush, bottlebrush squirreltail	crests of mountains 4-15	10 to 15	Poor: depth to rock, small stones

Source: *Soil Survey of Tuscarora Mountain Area, Nevada, Parts of Elko, Eureka, and Lander Counties*, USDA Soil Conservation Service, 1980 (USDA-SCS, 1980); and *Elko Central Soil Survey - Draft*, USDA Soil Conservation Service, 1985 (USDA-SCS, 1985).

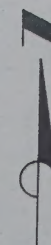
¹Table 12 - Construction Materials, *Soil Survey of Tuscarora Mountain Area, Nevada, Parts of Elko, Eureka, and Lander Counties*, USDA Soil Conservation Service, (USDA-SCS, 1980) and *Table 12 - Construction Materials, Elko Central Soil Survey - Draft*, USDA-Soil Conservation Service, 1985 (USDA-SCS, 1985).

²Solum Range consists of the A and B horizons.



LEGEND

- EXISTING DIRT ROADS AND DRILL PADS
- EXPLORATION PROJECT BOUNDARY
- - - EXISTING FENCE
- PERENNIAL FLOW
- - - INTERMITTENT FLOW
- SPRING SPRINGS



SCALE: 1" = 3000'

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